

# INSECTS OF SAMOA



PART III FASC. 4

HETEROCERA

(EXCLUSIVE OF GEOMETRIDAE AND THE MICROLEPIDOPTERA.)

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(With 12 Text-figures, and 13 Plates.)

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## INTRODUCTION

THE importance of the collection which led to the preparation of this report may be gauged from the fact that it has more than trebled the number of Samoan species represented in the British Museum. Prior to its receipt the Museum collections contained examples of just over sixty species from Samoa; the number here recorded is 237. Of these, 182 figure in Buxton and Hopkins' collections, and 66 proved to be new species or subspecies.

The generic classification in the Heterocera is in a very unstable condition, and would make any attempt at an analysis of the distribution based on genera a waste of time. Although I have revived one or two old generic names, this has been done purely for the sake of convenience, until proper investigations can be carried out in the cases of heterogeneous assemblages of species such as are at present included in *Anomis* (*Cosmophila*, *Rusicada*, *Tiridata*, etc.), and *Margaronia* (*Chloauges*, *Paradosis*, *Sisyrophora*, *Dysallacta*, etc.). At the same time, I have been unable to assign five species to already described genera, and have been compelled to erect new genera for these.

It need hardly be said that the selection of the proper generic and trivial names for insects frequently takes more time than the actual classification. In the past it has been necessary in working out the nomenclature of a genus to steer a way through a mass of the older literature in order to avoid many generic names proposed without an actual description or definition, and only limited by their restriction to a stated number of species. So many zoologists have

refused to accept generic names unaccompanied by a description or a definition, and so many have adopted the opposite view, that it has been impossible to foresee which course would ultimately be followed. We are now, however, in a somewhat more favourable position with regard to generic names. A way has at last been opened, and it may be well to repeat here the statement made by Mr. Francis Hemming à propos the interpretation of the word "indication" in the International Code of Zoological Nomenclature (See Hemming, *The Generic Names of the Holarctic Butterflies*, i, p. 9, 1934) :

"Fortunately the answer to this question was given in the clearest terms by the International Zoological Congress in 1927, which, on the unanimous recommendation of the International Commission on Zoological Nomenclature, agreed to amend Article 25 to provide that generic names proposed *after December 31st, 1930*, must, to be valid, be accompanied with 'a summary of characters (*seu* diagnosis: *seu* definition: *seu* condensed description) which differentiate or distinguish the genus . . . from other genera . . .,' while at the same time expressly laying down that as regards genera published prior to *January 1st, 1931*, the old rule . . . that 'an indication' was sufficient should remain in force. This clear-cut definition can only mean that names published before *December 31st, 1930*, to be valid, do not require to be accompanied by a verbal description. . . ."

There can be few lepidopterists who will not welcome this great advance in the direction of a stable nomenclature.

Although most of the family and subfamily names in the Heterocera (exclusive of Microlepidoptera) are now on a fairly stable basis, there are still one or two which are not firmly established. I propose to give here a tentative list of the families and subfamilies, in what seems to me at the moment to be the most convenient arrangement, set out in a table to show part of the range of distribution as it intimately concerns the Samoan moths. I am reluctantly compelled to make one or two changes in the names we are using in this country at the moment. The first, and the most far-reaching, is in the case of the family "NOCTUIDAE." As Monsieur F. Le Cerf (Encycl. Entom., Série B, III, Tome II, pp. 153-167, 1927) has shown :

"Linné n'ayant établi que trois genres dans les Lépidoptères, il n'y a pas d'autres genres ayant Linné pour auteur que les genres: *Papilio*, *Sphinx*, *Phalaena*."

With this conclusion I am in entire agreement, and would add that the



fact that in 1766 Linnaeus used the name *Noctua* for a genus of birds, is one piece of evidence that he did not use that term in 1758 with a generic significance. Another indication of the value placed on the divisions of *Phalaena* by Linnaeus is to be found in the *Systema Naturae*, ed. 12, vol. I (2), where it will be seen that there are several indexes, one called "Nomina Generica," in which *Phalaena* occurs and *Noctua* does not, and another called "Termini Artis," which contains such terms as "Albumen," "Ala," "Antenna," and "Bombyces," "Noctuae," etc. The first use of *Noctua* as a generic name in the Lepidoptera appears to have been by Schiffermüller and Denis (*Schmett. Wien.*, 1775), and in the same year Fabricius used it in his *Systema Entomologiae*. The name, however, is an absolute homonym, *Noctua* Linnaeus, 1766 (Aves), having priority. In 1895 A. R. Grote (*List of North American Eupterotidae, Ptilodontidae, Thyatiridae, Apatelidae and Agrotidae*) commenced his "Preface" with the words:

"The family name Agrotidae is proposed instead of the usual term Noctuidae, since the generic title Noctua is preoccupied."

I propose, therefore, to use in future the family name AGROTIDAE, as being the most suitable name from every point of view with which to supplant the old well-known NOCTUIDAE. I do not adopt the name PHALAENIDAE, which has been proposed for other reasons, as I cannot accept the suggestion that Linnaeus so named *Phalaena typica* because he regarded it as typical of the genus. The first writer to use *typus* as a name, in a sense that might be taken to mean "typical," was de Montfort in 1810, in conchology, and as the word can mean a "figure" or an "emblem," it is just possible that the two species of Mollusca so named at that time bore marks which may have induced de Montfort to use such a term. On the other hand, Latreille, who definitely uses the word "type" in the sense in which we understand it, never, so far as I am aware, described a species under the name *typus* or *typicus*. Cuvier used the name *Paradoxus typus* in 1822, Temminck used *Anastomus typus* in 1823, and Kaup named a species *Rachycentrus typus* in 1826. I have no time to go into the question of whether in the appearance of these organisms is to be found the reason for these names, but the last example I shall give puts the matter in a clearer light. In 1829, A. Smith definitely named a number of species in various genera *typus*, and from 1830 proceeded to use *typicus* quite as frequently. This seems to me to be the first evidence of the use of the name in the sense "typical." For my part, that effectively disposes of any suggestion that *Phalaena typica* Linnaeus can be considered to come within the scope of Article 30, rule I (b) of the Inter-

national Code of Zoological Nomenclature: "If in the original publication of a genus, *typicus* or *typus* is used as a new specific name for one of the species, such use shall be construed as 'type by original designation.'"

The next name that I propose to change is "ACRONYCTINAE." *Acronicta* Ochsenheimer, *Schmett. Eur.*, iv, p. 62, 1816, was cited by Hampson as "non descr." (incidentally with a wrong date, 1815). I accept without question the decision of the International Commission on Zoological Nomenclature (Opinion 97) regarding Hübner's *Tentamen*, but I feel that in view of the difficulty of discovering the types of such genera as *Acronicta*, we are entitled to take advantage of all available facts. Ochsenheimer gives an indication of what he means by his *Acronicta* in citing "Apatelae Hübn." We know that he did not see Hübner's *Verzeichniss bekannter Schmettlinge*, 1816, before his own work appeared in 1816, and I can find no evidence that even Treitschke had seen it when he published the first volume (V) continuing Ochsenheimer's work. It follows therefore that "Apatelae Hübn," referred to the *Tentamen*, where we read: "Apatelae *Apatela aceris*." This was a species figured by Hübner in his *Sammlung Europäische Schmetterlinge* in 1802. Even though Hübner's *Tentamen* cannot be accepted as valid, in my opinion it was a fact in the hands of Ochsenheimer, a verifiable fact to guide us in interpreting the meaning of Ochsenheimer's genera, in which he often included a number of species. I see, therefore, no reason for not adopting the generic name *Acronicta* Ochsenheimer, 1816, in place of the later *Acronycta* Treitschke; and in consequence, I propose that the subfamily name should be spelt ACRONICTINAE, in order to avoid confusion.

I have used here in listing the subfamily names of the SPHINGIDAE those adopted by Rothschild and Jordan in their "*Revision of the Sphingidae*," although I am a little uncertain about the stability of ACHERONTIINAE, PHILAMPELINAE and CHOEROCAMPINAE. It seems to me that the usual practice is for the typical subfamily to bear a name based on the name of the type genus of the family. This applies to ACHERONTIINAE, but in the case of the other two names I am not yet able to follow the disposition of the genera *Philampelus* and *Choerocampa*.

Various names are available for the family PEROPHORIDAE, the name of the type genus being a homonym (cf. *Perophora*, Wiegmann, 1835), and necessitating a new name. I follow Barnes and McDunnough and use the name LACOSOMIDAE.

The division of the family PSYCHIDAE into subfamilies seems to me so involved, that for the purposes of this list I have left the family undivided.



FAMILY.	SUBFAMILY.	SAMOA.	FIDJ.	AUSTRALIA.	NEW GUINEA.	FAMILY.	SUBFAMILY.	SAMOA.	FIDJ.	AUSTRALIA.	NEW GUINEA.
URANIIDAE	URANIINAE		×	×	×	ZYGAENIDAE	HETEROGYNNINAE				
	EPIPLEMINAE	×	×	×	×		HIMANTOPTERINAE				
	SEMATURINAE						PHAUDINAE				
	APOPROGONINAE						CHARIDEINAE				
SATURNIIDAE	SATURNIINAE		×	×	×		ZYGAENINAE				
	AGLAINAE						CHALCOSIINAE		×	×	×
	LUDIINAE					CASTNIIDAE	CASTNIINAE				
	CERATOCAMPINAE						SYNEMONINAE			×	
	ARSENURINAE					MEGALOPYGIDAE	NEOCASTNIINAE				
	OXYTENINAE						MEGALOPYGINAE				
EUPTEROTIDAE	CERCOPHANINAE						DALCERINAE				
				×	×	LIMACODIDAE	SOMABRACHYINAE				
LEMONIIDAE							LIMACODINAE			×	×
BRAHMAEIDAE						DREPANIDAE	EPIPYROPINAE			×	
LASIOCAMPIDAE	CHONDROSTEGINAE									×	×
	MALACOSOMINAE					THYATIRIDAE					
	ARCHAEOPACHINAE			×							
	CHIONOPSYCHINAE					PYRALIDAE	GALLERIINAE	×	×	×	×
	LASIOCAMPINAE			×	×		CRAMBINAE	×	×	×	×
	GONOMETINAE			×	×		SCHOENOBIIINAE	×	×	×	×
	GASTROPACHINAE						ANERASTHINAE	×	×	×	×
COSSIDAE	COSSINAE		×	×	×		PHYCITINAE	×	×	×	×
	TERAGRINAE						CHRYSAUGINAE				
	RATARDINAE						EPIPASCHINAE	×	×	×	×
PSYCHIDAE		×	×	×	×		ENDOTRICHINAE	×	×	×	×
							PYRALINAE	×	×	×	×
CALLIDULIDAE			×	×	×		HYDROCAMPINAE	×	×	×	×
							SCOPARIINAE		×	×	
							PYRAUSTINAE	×	×	×	×
							THYRIDINAE	×	×	×	×

*Species of economic importance.*

Below will be found a list of species which have been recorded as injurious either to living crops or dried food materials. The list will probably be increased ultimately by the addition of at least three species, which are already recorded



as occurring in the Hawaiian Islands and Fiji, namely, *Achroia grisella* Fabricius (GALLERIINAE), *Plodia interpunctella* Hübner (PHYCITINAE), and *Helhula undalis* Fabricius (PYRAUSTINAE).

<i>Heliothis armigera</i>	. . .	Linseed, tobacco, opium poppy, cotton, maize, tomato, pea-pods.
<i>Heliothis assulta</i>	. . .	Tobacco.
<i>Tiracola plagiata</i>	. . .	Castor, sisal hemp, tobacco, tapioca, banana, limes, rubber.
<i>Calogramma festiva</i>	. . .	<i>Crinum</i> and other LILIACEAE.
<i>Prodenia litura</i>	. . .	Cotton, tea, tobacco, tomato, potato, indigo, castor, maize, cabbage, rice, sweet potato, etc.
<i>Spodoptera mauritia</i>	. . .	Cotton, maize, rice, sugar-cane.
<i>Perigea illecta</i>	. . .	ACANTHACEAE (cf. Hampson, <i>Cat. Lep. Phal. B.M.</i> , vii, p. 332).
<i>Elydna nonagrica</i>	. . .	Tobacco.
<i>Earias huegeli</i>	. . .	Cotton.
<i>Achaea serva</i>	. . .	<i>Palaguium</i> , <i>Ficus</i> .
<i>Achaea janata</i>	. . .	Castor, pomegranate, tea, <i>Sapium sebifera</i> , <i>Palaguium</i> , <i>Albizzia amara</i> , <i>Euphorbia pilulifera</i> .
<i>Mocis frugalis</i>	. . .	Rice, maize, sorghum, millet.
<i>Plusia chalcites</i>	. . .	Tomato, cucumber, etc.
<i>Serodes partita</i>	. . .	Damages oranges.
<i>Othreis fullonia</i>	. . .	Damages fruit.
<i>Cosmophila flava flava</i>	. . .	<i>Hibiscus</i> , cotton, cow-pea.
<i>Anticarsia irrorata</i>	. . .	Sword beans.
<i>Hyblaea pueria</i>	. . .	Teak, <i>Bignonia</i> , <i>Millingtonia</i> , <i>Vitea</i> .
<i>Herse convolvuli</i>	. . .	Sweet potato, sunflower.
<i>Hippotion celerio</i>	. . .	Sweet potato, grape-vine, cotton, tobacco.
<i>Mahasena corbeti</i>	. . .	Coconut, oil-palm, areca nut, tuba, <i>Citrus</i> sp., etc.
<i>Corcyra cephalonica</i>	. . .	Cacao beans.
<i>Scirpophaga nivella</i>	. . .	Sugar-cane.
<i>Ephestia cautella</i>	. . .	Dried fruits and other food stuffs.
<i>Cryptoblabes plagioleuca</i>	. . .	Leaves of <i>Eriobotrya japonica</i> .
<i>Assara albicostalis</i>	. . .	Custard-apple.
<i>Etiella zinckenella</i>	. . .	Legumes, sann hemp.
<i>Pyrallis pictalis</i>	. . .	Rice.
<i>Hymenia recurvalis</i>	. . .	Beet, maize, <i>Amaranthus</i> .
<i>Ercta ornatalis</i>	. . .	<i>Ipomaea triloba</i> .
<i>Cnaphalocrocis medinalis</i>	. . .	Paddy (rice), maize. (Figured by Dammerman, <i>The Agricultural Zoology of the Malay Archipelago</i> , 1929.)
<i>Marasmia trapezalis</i>	. . .	Sugar-cane, maize, sorghum, millet.
<i>Nacoleia diemenalis</i>	. . .	LEGUMINOSAE (cow-pea, soy bean, etc.), ground-nut, indigo.
<i>Nacoleia octasema</i>	. . .	Bananas. (Figured by Dammerman, <i>The Agricultural Zoology of the Malay Archipelago</i> , 1929.)
<i>Sylepta derogata</i>	. . .	Cotton, <i>Hibiscus</i> , hollyhock.
<i>Margaronia indica</i>	. . .	Cucumber, melon, cotton, <i>Hibiscus</i> .
<i>Thliptoceras octoguttalis</i>	. . .	Coffee.
<i>Terastia meticulosalis</i>	. . .	<i>Erythrina</i> , various species.
<i>Maruca testulalis</i>	. . .	Beans.

*Deiopeia pulchella* Linnaeus has been recorded as destructive to *Crotalaria*, and also as feeding on sugar-cane, cinchona, etc. Some of these records may refer to *D. pulchelloides*.

One species of *Simplicia* has been bred from dried coconut leaves in Ceylon.

Two species of *Chloauges* have been recorded as rolling *Cinchona* leaves.

Attention may usefully be drawn to the paper entitled "Pests of Economic Plants in Samoa and other Island Groups" by Hopkins (*Bull. Ent. Res.*, xviii, pp. 23-32, Text-Fig. 1, Plate II, 1927).

The following table will give some idea of the distribution of the species now recorded as occurring in Samoa. The localities chosen have been restricted to those most nearly associated with Samoa and only such others added as will provide the means of recording at a glance the widest possible range.

DISTRIBUTION TABLE

SAMOA.	PACIFIC ISLANDS E. OF SAMOA.	FJI.	TONGA.	ELLICE.	NEW HEBRIDES.	LOYALTY.	NEW CALEDONIA.	SOLOMONS.	NEW GUINEA.	AUSTRALIA.	MALAY ARCH.	INDIA.	OLD WORLD.	NEW WORLD.
<i>Celama samoana</i> . . . . .			×											
<i>Nola tornotis</i> . . . . .					×					×				
<i>Chrysaeglia samoensis</i> . . . . .														
<i>Philagria entella delia</i> . . . . .		×			×			×	×					
<i>Macaduma samoensis</i> . . . . .														
<i>Asura pyropa</i> . . . . .														
<i>Asura hopkinsi</i> . . . . .														
<i>Asura uniformeola</i> . . . . .								×			×			
<i>Utetheisa pulchelloides</i> . . . . .	×				×	×		×	×	×	×	×		
<i>Deilemera alba</i> . . . . .														
<i>Deilemera mundipicta samoensis</i> . . . . .														
<i>Argina cribraria</i> . . . . .					×				×	×	×	×	×	
<i>Heliothis armigera</i> . . . . .	×	×	×	×	×			×	×	×	×	×	×	
<i>Heliothis assulta</i> . . . . .	×	×							×	×	×	×	×	
<i>Tiracola plagiata</i> . . . . .	×		×						×	×	×	×		
<i>Tiracola rufimargo samoensis</i> . . . . .														
<i>Callopietria meridionalis nauticorum</i> . . . . .														
<i>Calogramma festiva</i> . . . . .		×			×		×	×		×	×	×	×	
<i>Prodenia litura</i> . . . . .	×	×	×		×			×	×	×	×	×	×	
<i>Spodoptera mauritia</i> . . . . .	×	×	×		×			×	×	×	×	×	×	
<i>Perigea illecta</i> . . . . .	×				×			×	×	×	×	×	×	
<i>Elydna nonagricola</i> . . . . .	×	×			×				×	×	×	×	×	
<i>Chasmina tibialis</i> . . . . .	×	×	×		×		×		×	×	×	×	×	

SAMOA.	PACIFIC ISLANDS E. OF SAMOA.	Fiji.	TONGA.	ELLICE.	NEW HEBRIDES.	LOYALTY.	NEW CALEDONIA.	SOLOMONS.	NEW GUINEA.	AUSTRALIA.	MALAY ARCH.	INDIA.	OLD WORLD.	NEW WORLD.
<i>Eublemma rivula</i> . . . . .	×	×								×	×	×	×	
<i>Eublemma pudica</i> . . . . .		×									×	×		
<i>Oruza cariosa</i> . . . . .		×	×						×	×				
<i>Amyna natalis</i> . . . . .		×	×						×	×	×	×		
<i>Amyna octo</i> . . . . .	×	×			×				×	×	×	×	×	×
<i>Eustrotia ritsemae</i> . . . . .	×	×			×			×		×	×			
<i>Bombotelia simplex</i> . . . . .									×		×	×		
<i>Phlegetonia fasciatrix</i> . . . . .										×				
<i>Phlegetonia delatrix</i> . . . . .	×	×			×						×	×		
<i>Paectes canescens</i> . . . . .														
<i>Stictoptera hepatica</i> . . . . .														
<i>Gyrtona hopkinsi</i> . . . . .														
<i>Gyrtona divitalis</i> . . . . .	×										×	×		
<i>Microthripa buxtoni</i> . . . . .														
<i>Apothripa vailima</i> . . . . .														
<i>Barasa rebeli</i> . . . . .														
<i>Characoma scoparioides</i> . . . . .											×	×		
<i>Mniothripa lichenigera</i> . . . . .									×		×	×	×	
<i>Earias huegeli</i> . . . . .	×	×								×				
<i>Earias luteolaria</i> . . . . .	×	×	×				×			×	×	×		
<i>Maceda mansueta</i> . . . . .								×	×	×	×	×		
<i>Maurilia iconica</i> . . . . .									×	×	×	×		
<i>Anomocala hopkinsi</i> . . . . .														
<i>Cymodegma buxtoni</i> . . . . .														
<i>Cocytodes coerula</i> . . . . .		×			×	×	×		×		×	×		
<i>Lagoptera miniacea</i> . . . . .		×			×			×						
<i>Anua coronata</i> . . . . .	×	×								×	×	×		
<i>Anua samoensis</i> . . . . .														
<i>Anua tongaensis</i> . . . . .		×	×											
<i>Achaea serva</i> . . . . .			×		×				×	×	×	×		
<i>Achaea janata</i> . . . . .	×		×	×	×	×			×	×	×	×		
<i>Achaea fulminans</i> . . . . .														
<i>Parallelia prisca</i> . . . . .		×	×											
<i>Parallelia vitiensis</i> . . . . .		×												
<i>Chalciope cephist</i> . . . . .		×			×			×	×		×	×		
<i>Euclidisema aleyona</i> . . . . .		×						×	×	×				
<i>Mocis frugalis</i> . . . . .	×	×	×	×	×				×	×	×	×	×	
<i>Mocis trifasciata</i> . . . . .	×	×	×		×			×	×	×		×		
<i>Plusia chalcites</i> . . . . .	×	×	×		×			×	×	×	×	×	×	
<i>Felinia filipalpis</i> . . . . .		×							×	×	×	×		
<i>Catephia acronyctoides</i> . . . . .										×				
<i>Catephia sericea</i> . . . . .	×	×	×						×					

SAMOA.	PACIFIC ISLANDS E. OF SAMOA.	FJI.	TONGA.	ELLICE.	NEW HEBRIDES.	LOYALTY.	NEW CALEDONIA.	SOLOMONS.	NEW GUINEA.	AUSTRALIA.	MALAY ARCH.	INDIA.	OLD WORLD.	NEW WORLD.
<i>Nagia homotima</i> . . . . .														
<i>Ericeia inangulata</i> . . . . .									×		×	×	×	
<i>Ericeia leichardtii</i> . . . . .	×	×		×										
<i>Serrodes partita</i> . . . . .												×	×	
<i>Serrodes campana callipepla</i> . . . . .		×												
<i>Hypocala guttiventris</i> . . . . .		×								×				
<i>Hypocala australiae</i> . . . . .		×								×				
<i>Rivula polynesiiana</i> . . . . .			×											
<i>Rivula dipterygosoma</i> . . . . .														
<i>Othreis fullonia</i> . . . . .	×	×			×		×	×	×	×	×	×	×	
<i>Eumaenas salamina</i> . . . . .		×	×		×		×	×	×	×	×	×		
<i>Cosmophila flava flava</i> . . . . .	×	×	×		×			×	×	×	×	×	×	
<i>Cosmophila auragoides lyona</i> . . . . .		×							×		×	×		
<i>Rusicada nigratarsis xanthochroa</i> . . . . .		×									×	×		
<i>Rusicada vulpina</i> . . . . .		×												
<i>Tiridata samoana</i> . . . . .														
<i>Hypospila similis</i> . . . . .														
<i>Anticarsia irrorata</i> . . . . .	×	×	×		×			×	×		×	×	×	
<i>Lacera alope</i> . . . . .		×	×		×			×	×		×	×	×	
<i>Leptotroga armstrongi</i> . . . . .														
<i>Oxyodes ochreata samoana</i> . . . . .														
<i>Catada charalis</i> . . . . .		×						×	×	×				
<i>Machaeropalpus fasciatus</i> . . . . .														
<i>Mormecia lachnogyia</i> . . . . .														
<i>Simplicia lautokiensis</i> . . . . .		×												
<i>Nodaria acrosema</i> . . . . .									×	×				
<i>Hydrillodes surata</i> . . . . .		×	×											
<i>Hydrillodes gravatalis</i> . . . . .												×		
<i>Hydrillodes sigma</i> . . . . .														
<i>Bocana manifestalis</i> . . . . .	×	×						×	×		×	×	×	
<i>Progonia oileusalis</i> . . . . .												×	×	
<i>Hypena gonospilalis</i> . . . . .	×	×									×			
<i>Ophiuche ferriscitalis</i> . . . . .		×							×	×	×	×		
<i>Hypenodes taona</i> . . . . .														
<i>Arrade samoensis</i> . . . . .														
<i>Luceria oculalis</i> . . . . .	×									×	×	×		
<i>Chusaris aurantilineata</i> . . . . .											×	×		
<i>Hyblaea sanguinea</i> . . . . .		×	×											
<i>Hyblaea puera</i> . . . . .	×	×						×	×	×	×	×	×	×
<i>Herse convolvuli</i> . . . . .	×	×			×			×					×	
<i>Cephonodes armatus armatus</i> . . . . .		×												
<i>Chromis erotus eras</i> . . . . .	×		×		×	×		×	×	×				



SAMOA.	PACIFIC ISLANDS E. OF SAMOA.	Fiji.	TONGA.	ELLICE.	NEW HEBRIDES.	LOYALTY.	NEW CALEDONIA.	SOLOMONS.	NEW GUINEA.	AUSTRALIA.	MALAY ARCH.	INDIA.	OLD WORLD.	NEW WORLD.
<i>Deilephila placida steffanyi</i> . . . . .														
<i>Macroglossum hirundo samoanum</i> . . . . .														
<i>Hippotion celerio</i> . . . . .	×	×	×	×	×	×	×	×	×	×	×	×	×	
<i>Epiplema amygdalipennis</i> . . . . .														
<i>Epiplema</i> sp. (undescribed, Rebel) . . . . .														
<i>Epiplema hapala</i> . . . . .														
<i>Epiplema lypera</i> . . . . .														
<i>Gathynia lugens</i> . . . . .														
<i>Phazaca kellersi</i> . . . . .														
<i>Clania</i> ? sp. (undescribed, Rebel) . . . . .														
<i>Mahasena corbetti</i> . . . . .											×			
<i>Fumea</i> ? sp. (undescribed, Rebel) . . . . .														
<i>Fumea samoana</i> . . . . .														
<i>Striglina lithophora</i> . . . . .														
<i>Striglina anthina</i> . . . . .														
<i>Striglina oecia</i> . . . . .														
<i>Betousa hemicycla</i> . . . . .		×												
<i>Rhodoneura plagifera</i> . . . . .			×											
<i>Rhodoneura sericatalis</i> . . . . .														
<i>Brixia dialitha</i> . . . . .														
<i>Ceratothalama argosema</i> . . . . .		×												
<i>Acolastodes oenotripta</i> . . . . .		×												
<i>Corcyra cephalonica</i> . . . . .		×							×	×	×	×	×	×
<i>Tirathaba trichogramma</i> . . . . .		×			×									
<i>Crambus dielota</i> . . . . .		×								×				
<i>Diptychophora calliptera</i> . . . . .														
<i>Diptychophora amydra</i> . . . . .														
<i>Diptychophora dialitha</i> . . . . .														
<i>Scirpophaga nivella</i> . . . . .												×		
<i>Rhinaphe virginella</i> . . . . .										×				
<i>Rhinaphe nigricostalis</i> . . . . .		×									×	×	×	
" <i>Anerastine</i> sp." (undescribed, Rebel) . . . . .														
<i>Ephestia cautella</i> . . . . .		×						×		×	×	×	×	×
<i>Homoeosoma ephestidiella</i> . . . . .	×	×									×			
<i>Ptyobathra polia</i> . . . . .														
<i>Thylacoptila auchmodes</i> . . . . .										×	×			
<i>Thylacoptila gonylasia</i> . . . . .														
<i>Nephoteryx ceratistes</i> . . . . .														
<i>Cryptoblabes proleucella</i> . . . . .											×	×		
<i>Cryptoblabes elaeothrepta</i> . . . . .														
<i>Cryptoblabes trabeata</i> . . . . .		×			×									
<i>Cryptoblabes plagiouleuca</i> . . . . .	×	×			×					×				

[illegible]

SAMOA.	PACIFIC ISLANDS E. OF SAMOA.	FJI.	TONGA.	ELLICE.	NEW HEBRIDES.	LOYALTY.	NEW CALEDONIA.	SOLOMONS.	NEW GUINEA.	AUSTRALIA.	MALAY ARCH.	INDIA.	OLD WORLD.	NEW WORLD.
<i>Hoploscopa astrapias nauticorum</i> . . . . .														
<i>Clupeosoma lampra</i> . . . . .														
<i>Clupeosoma photina</i> . . . . .														
<i>Sufetula choreutalis</i> . . . . .									×					
<i>Sufetula hemiophthalma</i> . . . . .	×	×								×				
<i>Aulacoptera fuscinervalis</i> . . . . .		×						×	×		×			
<i>Rehimena cissophora</i> . . . . .					×			×	×	×				
<i>Hymenia recurvalis</i> . . . . .	×	×			×				×	×	×	×		
<i>Eurrhyarodes tricoloralis</i> . . . . .	×	×						×		×	×	×	×	
<i>Pagyda perlustralis</i> . . . . .														
<i>Ercta ornatalis</i> . . . . .	×	×			×						×	×	×	×
<i>Cnaphalocrocis medinalis</i> . . . . .					×		×		×	×	×	×	×	
<i>Marasmia venilialis</i> . . . . .	×	×						×	×	×	×	×	×	
<i>Marasmia trebiusalis</i> . . . . .		×						×			×	×	×	
<i>Marasmia trapezalis</i> . . . . .	×	×	×	×						×	×	×	×	×
<i>Syngamia floralis</i> . . . . .	×				×				×	×	×	×	×	
<i>Leucophotis pulchra</i> . . . . .		×												
<i>Phostria oconnori</i> . . . . .														
<i>Nacoleia diemenalis</i> . . . . .	×	×	×		×			×	×	×	×	×		
<i>Nacoleia octasema</i> . . . . .		×			×			×	×	×	×			
<i>Authaeretes exaereta</i> . . . . .														
<i>Sylepta sabinusalis</i> . . . . .		×						×	×		×	×	×	
<i>Sylepta derogata</i> . . . . .		×			×			×	×	×	×	×	×	
<i>Sylepta commotes</i> . . . . .														
<i>Agathodes rebeli</i> . . . . .		×												
<i>Chloauges woodfordii</i> . . . . .				×										
<i>Chloauges brunneomarginalis</i> . . . . .									×					
<i>Margaronia mysteris</i> . . . . .					×									
<i>Margaronia indica</i> . . . . .	×	×							×	×	×	×	×	
<i>Margaronia diplocyma</i> . . . . .		×	×											
<i>Margaronia oceanitis</i> . . . . .		×			×									
<i>Margaronia samoana</i> . . . . .														
<i>Margaronia buxtoni</i> . . . . .														
<i>Margaronia deliciosa</i> . . . . .					×			×	×		×			
<i>Margaronia multilinealis</i> . . . . .	×	×			×				×		×	×		
<i>Margaronia virginalis</i> . . . . .														
<i>Margaronia juvenalis</i> . . . . .		×												
<i>Epipagis cancellalis</i> . . . . .		×						×		×	×	×	×	
<i>Thliptoceras octoguttalis</i> . . . . .	×	×				×					×	×	×	
<i>Terastia mcticulosalis</i> . . . . .		×			×					×	×	×	×	×
<i>Hyalobathra wilderi</i> . . . . .														
<i>Maruca testulalis</i> . . . . .	×	×							×	×	×	×	×	×

SAMOA.	PACIFIC ISLANDS E. OF SAMOA.	FIDJ.	TONGA.	ELLICE.	NEW HEBRIDES.	LOYALTY.	NEW CALEDONIA.	SOLOMONS.	NEW GUINEA.	AUSTRALIA.	MALAY ARCH.	INDIA.	OLD WORLD.	NEW WORLD.
<i>Psara licarsisalis</i> . . . . .	×	×	×					×	×	×	×	×	×	
<i>Psara stultalis</i> . . . . .	×								×	×	×	×		
<i>Noorda apiensis</i> . . . . .					×									
<i>Exeristis pollostia</i> . . . . .														
<i>Exeristis catharia</i> . . . . .														
<i>Exeristis asynopta</i> . . . . .														
<i>Pyrausta amboinalis</i> . . . . .														
<i>Phassodes vitiensis</i> . . . . .		×												

Reviewing the distribution table, the following facts emerge :—

Eighty-eight species are at present known from Samoa only. To this number must be added ten species of GEOMETRIDAE recorded by Prout. How great a proportion of these are endemic it would be impossible to say, but there is little doubt about a certain number, e.g. *Calloplistria meridionalis nauticorum*, *Oxyodes ochreata samoana*, *Deilephila placida steffany*, *Macroglossum hirundo samoanum*, *Striglina oecia*, *Hoploscopa astrapias nauticorum*, *Piletocera albescens*, to which may be added *Barasa rebeli*, *Anomocala hopkinsi*, *Cymodegma buxtoni*, *Machaeropalpus fasciatus*, *Mormecia lachnogyia*, *Hydrillodes sigma*, *Doththa plinthopa*, *Authaeretis exaereta*, *Margaronia samoana*, *Margaronia buxtoni*, and with perhaps less certainty the whole of the EPIPLEMINAE, the species of *Diptychophora*, the species of *Exeristis*, and several species in the genera *Bradina* and *Piletocera*.

It will be noticed that every record linking Samoa with the islands to the east also shows a considerable extension of the distribution to the west, in fact, all the species concerned are well-known and in every case almost certainly were introduced through human agency.

Five species (*Phlegetonia fasciatrix*, *Catephia acronyctoides*, *Hypocala guttiventris*, *Rhinaphe virginella*, *Piletocera vestigialis*) are recorded from Australia and Samoa only, and I feel certain that in the case of the last four at least more critical investigations are necessary. These cannot be carried out until more material is available.

Four species (*Celama samoana*, *Rivula polynesiensis*, *Rhodoneura plagifera*,



*Dracaenura agramma*) are recorded from Samoa and Tonga only. The Samoan example of *Rivula polynesiana* may not be conspecific with the Tongan example.

Six species (*Anua tongaensis*, *Parallelia prisca*, *Hyblaea sanguinea*, *Bradina acrospila*, *Margaronia diplocyma*, *Hydrillodes surata*) are recorded from Samoa, Tonga and Fiji. I think it is extremely probable that more material of *Anua tongaensis* and *A. samoensis* will show that either there is one variable species common to the three groups of islands or that there are three subspecies.

Nineteen species are recorded from Samoa and Fiji only, but considering the richness of the fauna in the case of these two groups compared with that of Tonga as we know it, I can only surmise that the apparent poorness of the Tongan fauna is due to the scantiness of the material which has so far come into our hands. Judging from the material received from Fiji by the British Museum through the Imperial Institute of Entomology, it is evident that the fauna of Fiji is much richer than that of either Samoa or Tonga, and still possesses more elements in common with what appears to be the source from which it originated, viz. the Malay Archipelago and New Guinea.

Of the following widely distributed nonendemic Hawaiian moths (see Fauna Hawaiiensis) those in column A are not known to occur in Samoa, while those in column B are recorded in the present paper.

A	B
<i>Cirphis unipuncta</i> and nine other spp. of <i>Cirphis</i> .	<i>Heliothis armigera</i>
<i>Agrotis ipsilon</i> } and twenty-five other spp. of <i>Agrotis</i> .	<i>Spodoptera mauritia</i>
„ <i>saucia</i> }	<i>Plusia chalcites</i>
<i>Spodoptera exigua</i>	<i>Herse convolvuli</i>
<i>Cosmophila sabulifera</i>	<i>Hymenia recurvalis</i>
<i>Plusia biloba</i> (American)	<i>Pyralis manihotalis</i>
<i>Celerio lineata</i>	
<i>Plodia interpunctella</i>	
<i>Ephesia elutella</i>	
<i>Achroia grisella</i>	
<i>Eromene ocellus</i>	
<i>Nymphula fluctuosalis</i>	
<i>Nomophila noctuella</i>	
<i>Hellula undalis</i>	

Of the species listed in column A the following occur in Fiji :—

*Agrotis ipsilon*  
*Cirphis unipuncta*  
*Plodia interpunctella*  
*Hellula undalis*  
*Achroia grisella*  
*Nomophila noctuella*

The genus *Scoparia* has representatives in the Hawaiian Islands and Fiji, but not in Samoa so far as we at present know.

As there are some cases in which subspecies or species closely related to Samoan species or subspecies are not mentioned in the text, the two following tables are inserted to show at a glance what is already known, and at the same time to indicate certain *lacunae* in our knowledge. In the case of *Calloplistria meridionalis* and *Striglina oecia* the expression "unnamed" refers to British Museum material not yet fully investigated but which the author has little doubt can be classified in this way.

SAMOAN SPECIES WITH A SUBSPECIES IN	TONGA	FIJI
<i>DeilemERA mundipicta samoensis</i> Tams . . .	unnamed <i>R. polynesiana</i> Hamps.	<i>D. m. fasciata</i> Walk.
<i>Calloplistria meridionalis nauticorum</i> Tams . . .		unnamed
<i>Rivula (polynesiana)</i> Hampson ?) . . .		<i>O. o. tanymekes</i> Tams
<i>Oxyodes ochreatea samoana</i> Tams . . .		<i>D. P. torenia</i> Druce
<i>Deilephila placida steffany</i> Clark . . .		<i>H. a. astrapias</i> Meyr.
<i>Hoploscopa astrapias nauticorum</i> Tams . . .		
SAMOAN SPECIES WITH A CLOSELY RELATED SPECIES (OR SUBSPECIES ?) IN	TONGA	FIJI
<i>Paectes canescens</i> Tams . . . . .	<i>P. cristatrix</i> Guen.	<i>P. cristatrix</i> Guen.
<i>Stictoptera hepatica</i> Rebel . . . . .		<i>S. vitiensis</i> Hamps.
<i>Barasa rebeli</i> Tams . . . . .		<i>B. tetragramma</i> Hamps.
<i>Anua samoensis</i> Tams . . . . .	<i>A. tongaensis</i> Hamps.	<i>A. tongaensis</i> Hamps.
<i>Nagia homotima</i> Tams . . . . .	<i>N. monastica</i> Hamps.	
<i>Tiridata samoana</i> Butler . . . . .		<i>T. vitiensis</i> Butl.
<i>Striglina oecia</i> Tams . . . . .	<i>S. varauensis</i> Hamps.	unnamed.
<i>Piletocera albescens</i> Rebel . . . . .		<i>Nacoleia allocosma</i> Meyr.
<i>Authaeretus cxaercta</i> Tams . . . . .		<i>A. eridora</i> Meyr.
<i>Hyalobathra wilderi</i> Tams . . . . .		<i>H. illectalis</i> Walk.
<i>Exeristis pollostia</i> Tams . . . . .	<i>E. asyphela</i> Meyr.	
<i>Exeristis catharia</i> Tams . . . . .		
<i>Exeristis asynopta</i> Tams . . . . .		

Attention may be directed to those genera which show the most interesting developments in Samoa, Tonga and Fiji. These are *Diptychophora* in the CRAMBINAE, *Dracaenura*, *Bradina* and *Piletocera* in the HYDROCAMPINAE, and *Margaronia* and *Exeristis* in the PYRAUSTINAE. These, it will be noted, all belong

to the family PYRALIDAE, to which practically fifty per cent. of the total number of species listed belong.

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In concluding these introductory remarks I should like to make this the occasion of thanking Professor Buxton for the opportunity of working through the material dealt with in the following pages. The task has taken much longer than was anticipated and has perhaps unduly delayed the completion of the whole survey. This was, however, inevitable. Unforeseen difficulties of taxonomy and nomenclature were encountered at every step, the complete solution of which involved investigations reaching far beyond the immediate scope of this work. If all these had been pursued to their ultimate solution, this work would never have appeared, and I have therefore been regretfully compelled to leave some matters still in a state of taxonomic uncertainty. These are duly indicated where they occur.

## ARCTIIDAE.

## NOLINAE.

1. *Celama samoana* Hampson.

*Celama samoana* Hampson, *Cat. Lep. Phal. B. M., Suppl.* i, p. 397, pl. 22, fig. 23, Nov., 1914.

*Celama squalida* Staudinger, Hampson, *Cat. Lep. Phal. B. M.*, ii, p. 25, Feb., 1900, non Staudinger :  
part = Tonga specimens.

*Celama squalida* Staudinger, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 125, 144, 1915, non Staudinger.

Upolu : Apia, ♀♀ only, 5.iv.1924 (Armstrong) ; 27, 30.i., 3, 10.ii., 20.iii., 31.iv., 30.v.1924, 1,000 feet, x.1925 ; 3 ♀♀ (Lister) ; ♂♂, 13, 14.ix.1923, ♀♀, 13, 15.ix.1923 (Swezey and Wilder) ; ♂♂ and ♀♀, x.1912, at light (Friederichs), ♀ (Henniger), recorded by Rebel (1915) as *Celama squalida* Staudinger.

Malololelei, 2,000 feet, ♂♂, 22, 23, 25.ii., 17, 20.iv., 25, 30.xi.1924, 21, 22.iv.1925 ; ♀♀, 22, 23, 24, 25.ii., 22.iii., 28.iv.1924, 21.iv.1925.

Tutuila : 1 ♀ (Kellers).

Pago Pago, 2 ♀♀, v.1896. (de la Garde.)

Hampson had placed the two Pago Pago specimens under *Celama squalida* Staudinger, with the 6 ♂♂ and 1 ♀ taken in Tonga by G. F. Mathew and presented to the Museum in 1887. Apparently this mistake of Hampson's resulted in Rebel's Samoan record of that species. Staudinger's type of *Celama squalida* is a specimen taken at Malaga, Spain, and I have not yet seen it matched, though the name has been freely used for all sorts of entirely different species.

Pago Pago, 13 ♂♂, 13 ♀♀, ii.1924 (Steffany).

I should like to draw attention to the fact that a misidentification, such as those occurring under the above species, is frequently cited as follows :—

*Celama squalida* Hampson, *Cat. Lep. Phal.*, ii, p. 25, Feb., 1900, non Staudinger.

*Celama squalida* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 125, 144, 1915, non Staudinger.

Although the chances are against Hampson and Rebel both describing a new species *Celama squalida*, there is nothing in the above form of citation to differentiate it from a statement of absolute homonymy, and I maintain that it is not a correct statement of fact. In neither of these cases is the *Celama squalida* a homonym of *Celama squalida* Staudinger ; my own statement refers to material which Hampson, copied by Rebel, identified, erroneously, as *Celama squalida* Staudinger. I have placed the author's name in italics, to draw attention to the fact that a misidentification is being cited.

2. *Nola tornotis* Meyrick.

*Sorocostia tornotis* Meyrick, *Proc. Linn. Soc. N. S. W.* (2) ii, p. 923, 1887.

*Nola tornotis* Meyrick, Hampson, *Cat. Lep. Phal. B. M.*, ii, p. 40, pl. 19, fig. 9, Feb., 1900.

Upolu : Malololelei, ♀, 21.vi.1924.

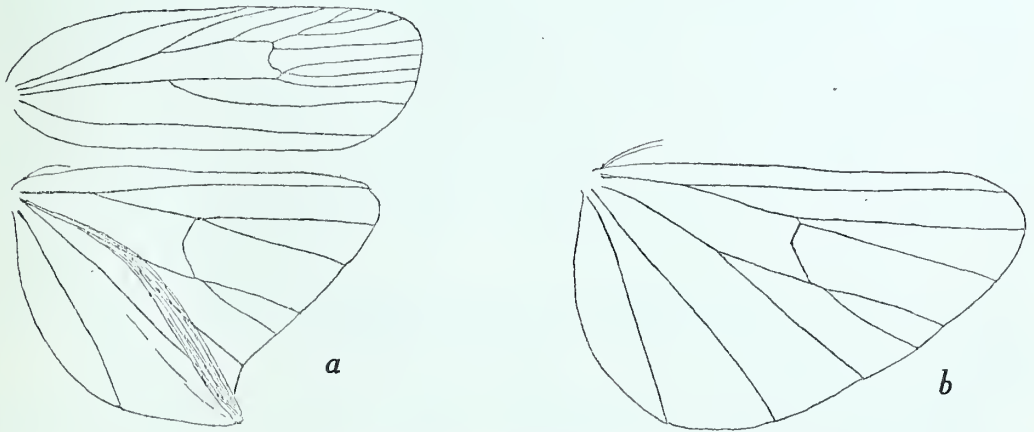
## LITHOSIINAE.

3. *Chrysaeglia samoensis* Rebel.

(Text-fig. 1 ; Plate VI, fig. 12, Plate, VII, fig. 1.)

*Chrysaeglia samoensis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 147, fig., 1915, ♀ only.

♂. Palpus obliquely upturned, almost straight, third segment in size about two-thirds of second. Antenna strongly pectinate. Hindwing with a deep



TEXT-FIG. 1.—*Chrysaeglia samoensis* Rebel.  
(a) ♂, fore and hindwing venation ; (b) ♀, hindwing venation.

eversible fold from the wing-base to termen at vein  $A_2$ , the latter bearing for the greater part of its length an expansible brush of long spatulate hair-scales, which, when the insect is tranquil, are concealed within the fold.

Palpus ochraceous orange,\* second segment dorsally and third entirely dark purple drab with a dark bluish violet sheen in oblique light. Antenna with shaft

\* Ridgway's *Color Standards and Color Nomenclature*, 1912, has been used in describing these colours.



dark purple drab, glossy anthracene green to patent blue in oblique light, the pectinations bone brown. Head dark purple drab to fuscous, with the frons and vertex in oblique light glossy anthracene green to patent blue, and with the occipital region ochraceous orange. Thorax dark purple drab, in oblique light anthracene green to dark bluish violet, glossy, edged with ochraceous orange at wing-bases; patagium and tegula ochraceous orange varying to ochraceous salmon with changing light, the tegula with some of the varying dark purple drab shading. Abdomen ochraceous buff above, to ochraceous orange ventrally and terminally. Pectus and legs ochraceous orange, the latter with the femora shaded with varying dark purple drab distally, the fore and mid tibiae and tarsi dark purple drab dorsally, the hind tibia with the dark shading proximally only, except for the tips of the spurs, the hind tarsus lightly shaded with the same colour. Forewing (including fringe) versicolorate, dark purple drab, varying with changing light through a series of greens and blues (anthracene green, patent blue, Berlin blue, azurite blue to dark bluish violet), with some irregular ochraceous orange longitudinal streaks at the wing-base below the costa, which is finely ochraceous orange; an elliptical ochraceous orange spot below the cell just exceeding one-third of the cell-length, a second similar, but slightly smaller spot filling the distal third of the cell; faint scattered traces of the ochraceous orange colour postmedially, extending to termen, a similarly coloured indefinite mark on costa before the apex, and traces of the same colour at the tornus. Hindwing entirely ochraceous buff to antimony yellow, with a remarkable expansible brush of long, curved, spatulate hair-scales, the expanded brush rising half-a-centimetre above the wing surface, and spreading over half the wing. Fringe paler.

Underside: forewing ochraceous orange, hindwing ochraceous buff, deepening to ochraceous orange costally.

Expanse: 32-35 mm.

Neallotype ♂. Upolu: Malololelei, 2,000 feet, 21.iv.1924.

Other material:—

Upolu: Malololelei, 2,000 feet, 3 ♂♂, 22, 25, 26.vi.1924; 5 ♀♀, 22, 25, 27.vi., 2.vii.1924 (Armstrong); 2 ♂♂, 2 ♀♀, vii.1925 (Wilder); 5 ♂♂, 22, 25.ii., 5, 7.vii.1924; 12 ♀♀, 14, 22, 23.ii., 21.vi., 13.vii., 18.viii., 29.xi.1924.

Savaii: 1,000 feet, ♀, 21.xi.1925.

The type, a female, was collected by Dr. Friederichs, and is in the Naturhistorisches Museum, Hamburg.

4. *Philagria entella delia* Fabricius.

*Noctua delia* Fabricius, *Mantissa*, ii, p. 140, 1787.

*Oenistis entella* (Cramer) *delia* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 423, 1910.

*Oenistis entella delia* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 144, 1915.

Upolu : Apia, 1 ♀, x.1896 (de la Garde) ; Vaimea, 1 ♀, 6.vi.1905 (Rechinger) recorded by Rebel, 1910.

As the genus *Oenistis* Hübner, 1822, appears to be available and to have been adopted for *O. quadra* Linnaeus, I do not think Hampson was in order in using it for *Phalaena* (*Tinea*) *entella* Cramer, *Uitl. Kapellen*, iii (18), p. 27 and index, pl. 208, Fig. D, 1779, and in consequence I have adopted the generic name *Philagria* Kirby, 1892.

Cramer gives as the habitat for *P. entella* the Coromandel Coast, and Fabricius gives as the habitat for his *Noctua delia*, "Insula Amsterdam." I am not quite sure of the geographical application of this name,\* but the type, which is in the Banks Collection in the British Museum, agrees with the Samoan subspecies. From investigations I have made with regard to the genitalia, ♂ and ♀, I have come to the conclusion that we have here a widely distributed species, represented in various localities by structurally well-differentiated subspecies. The typical subspecies is *Philagria entella entella* Cramer, occurring in India and Ceylon, and the subspecies with which we are here concerned is *P. entella delia* Fabricius.

5. *Macaduma samoensis*, sp. n. (Plate VI, fig. 10).

♂. Palpus and antenna ochraceous buff. Head with frons pale buff deepening to warm buff at vertex. Thorax avellaneous, the various parts (patagium, tegula, etc.) edged with pale buff. Abdomen warm buff, laterally ochraceous buff. Pectus and legs ochraceous buff, underside of abdomen warm buff with the middle third infuscate, this part avellaneous proximad to fuscous black distad. Forewing avellaneous with the fasciae and other markings chestnut brown to warm sepia ; an antemedial fascia commencing at the middle of the costa, forming a heavy blotch in the middle of the cell, crenate (concavities basad) to inner margin. A fine irregularly and indistinctly crenulate deeply bowed (concavity basad) postmedial fascia, commencing from a prominent tuft

\* Brigham's *Index to the Islands of the Pacific* gives *Amsterdam islet* on the coast of New Guinea, 0°.20'S, 132°.08'E. ; *Amsterdam (New)*, a name given by Tasman, in 1642, to Tongatabu.

of mixed avellaneous and fuscous scales on the costa. Some traces of the darker shading subterminally, especially near the costa. Hindwing maize yellow to buff yellow, without markings, fringe paler.

Underside: forewing maize yellow to buff yellow costally, with a heavy fuscous to fuscous black ill-defined patch postmedially extending from costa to vein  $M_2$ , and a lighter fuscous shade subterminally below apex, but reaching the termen. Hindwing with a small diffuse fuscous patch postmedially at costa.

♀. Similar to ♂, but with forewing markings in clove brown to fuscous black (probably only an individual difference and not a sexual one), and without the postmedial tuft of scales on the costa (a sexual distinction). The specimen here described has hardly any trace of an antemedial fascia, the postmedial fascia is dentate rather than crenulate, and there is a considerable amount of clove brown irroration over the distal half of the wing. The fuscous shading on distal half of forewing underside is more extensive than in the ♂, but as in that sex, leaves a strip of the ground-colour along one-third of the costa.

Expanse: ♂ and ♀, 19 mm.

Holotype ♂ and allotype ♀. Upolu: Malololelei, 2,000 feet, vii.1924 and 23.ii.1924 respectively.

## 6. *Asura pyropa*, sp. n. (Plate VI, fig 11).

♂. Palpus orange buff streaked with scarlet, the third segment fuscous-tipped. Antenna with the shaft orange buff, with one or two stray specks of scarlet. Head and thorax orange buff mixed with scarlet. Abdomen warm buff. Pectus, legs and underside of abdomen orange buff; the foreleg with the coxa and femur tinged with scarlet, the tibia shaded with fuscous; the other legs with the tibiae slightly infusate distally. Forewing orange buff, blotched and streaked somewhat irregularly with scarlet; sub-basal, antemedial, medial and postmedial blotches on costa; a scarlet streak from wing-base to termen through middle of cell, expanding towards the end of the cell; interneural scarlet streaks; traces of a waved antemedial fascia and a bowed (concavity basad) postmedial fascia, faintly infusate. Fringe infusate. Hindwing light buff to pale ochraceous buff.

Underside: forewing salmon buff tinged with scarlet towards costa. Hindwing as on upper side.

♀. Similar to ♂, but with abdomen and hindwing warm buff to ochraceous

buff. The fasciae are more distinctly seen in this example, and there is evidence of a medial fascia. The postmedial fascia is dentate from the costa to vein  $Cu_1$ . Underside somewhat more richly coloured than that of the ♂.

Expanse : ♂, 30 mm., ♀, 32 mm.

Holotype ♂. Upolu : Malololelei, 22.vi.1924 (Armstrong).

Allotype ♀. Upolu : Malololelei, 2,000 feet, 21.ix.1925.

Differs from *A. pyrostrota* Hampson in that the postmedial fascia takes a somewhat wider sweep round the end of the cell.

### 7. *Asura hopkinsi*, sp. n. (Text-fig. 2 ; Plate VI, fig. 9).

♂. Palpus, antenna, head, thorax, abdomen, pectus and legs warm buff to cream buff, the antennal shaft and the legs with traces of fuscous shading. Forewing buff yellow, with ill-defined fuscous shading on basal third, and an equally ill-defined area of fuscous shading postmedially, broadening towards inner margin, along which it may extend from middle to tornus. Hindwing cream buff.

Underside : forewing warm buff, hindwing cream buff, deepening to warm buff costad.

♀ similar, slightly larger.

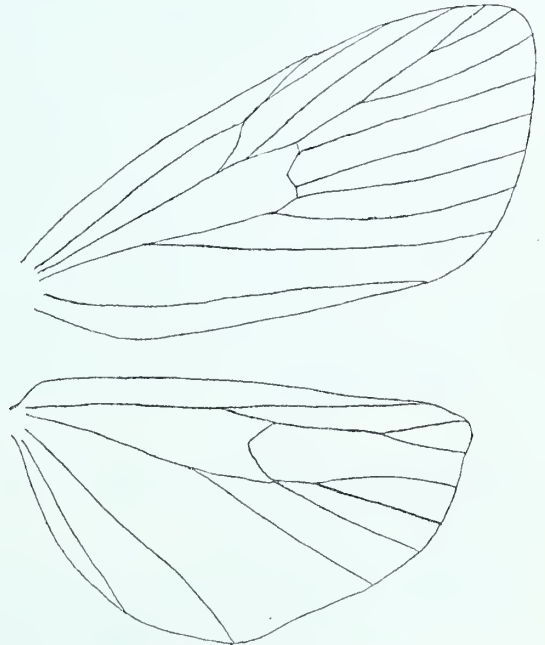
Expanse : ♂, 21 mm., ♀, 22 mm.

Holotype ♂ and allotype ♀. Upolu : Malololelei, 2,000 feet, 21.iv.1925.

Paratypes. Upolu : Malololelei, 2,000 feet, 1 ♀, 2.vii.1924 (Armstrong); 6 ♀♀, 24, 25.ii., 5.vii., 29.xi.1924, 21.iv.1925.

Savaii : Safune, ♂, lowland to 1,000 feet, 1.v.1924 ; ♀, rain forest, 2,000–4,000 feet, 3.v.1924 (Bryan).

This species closely resembles *A. biseriata* Hampson, but lacks the strong radiate-striate fuscous shading characteristic of that species, having instead light fuscous shading disposed in similar areas.



TEXT-FIG. 2.—*Asura hopkinsi* Tams.  
Wing venation.



8. *Asura uniformeola* Hampson (Text-fig. 3).

*Asura uniformeola* Hampson, *Cat. Lep. Phal. B. M.*, ii, p. 464, pl. 31, fig. 7, Feb., 1900.

*Asura uniformeola* Hampson, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 423, 1910.

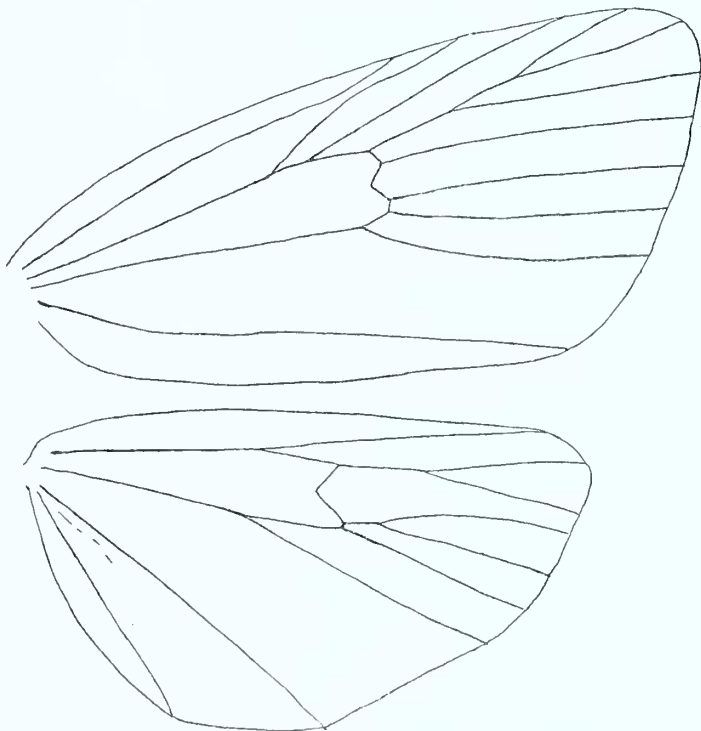
*Asura uniformeola* Hampson, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 144, 1915.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Tutuila : Pago Pago, 1 ♂, i.1924 (Steffany), 2 small ♀♀ (Kellers).

Savaii : Safune, 2 ♂♂, rain forest, 2,000-4,000 feet, 3.v.1924 (Bryan).

Rebel (1910) records 4 ♂♂, 1 ♀, taken at Malifa (Upolu) by Dr. Reehinger on the following dates : 28.v., 6-18.vi., and 7.viii.1905.



TEXT-FIG. 3.—*Asura uniformeola* Hampson. Wing venation.

## ARCTIINAE.

9. *Utetheisa pulchelloides* Hampson.

*Utetheisa pulchelloides* Hampson, *Ann. Mag. Nat. Hist.* (7), xix, p. 239, 1907.

*Utetheisa pulchella* Linnaeus, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 12, 1910, non Linnaeus.

Samoa. 1 ♂, 1 ♀, iii.-viii.1921 (O'Connor).

Rebel (1910) records that the moths of this species fly only by day, according



to notes made by Dr. Rechner, who saw it on Upolu, but apparently took no specimens. Buxton has given me a note recording that this moth "was not rare, among *Tournefortia argentea* trees on the seashore, and nowhere else."

## HYPSINAE.

10. *Deilemera alba* Pagenstecher.

*Nyctemera alba* Pagenstecher, *Jahrb. Nass. Ver. f. Naturk.*, liv, p. 135, 1901.

*Nyctemera alba* Pagenstecher, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 423, pl. 18, fig. 16, 1910.

*Nyctemera alba* Pagenstecher, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 148, 157, 1915.

Samoa. 1 ♂, 1 ♀ (Museum Godeffroy) in Hamburg Natural History Museum, recorded by Rebel, 1910; series ♂♂, ♀♀ (Friederichs), recorded by Rebel, 1915; 1 ♂, 1 ♀ (Museum Godeffroy) labelled "Viti," in British Museum collection; 1 ♂ in Oberthür collection (British Museum) labelled: "Alu, Salomon" Ex Musaeo Doctoris Boisduval; 1 ♂ (G. F. Mathew).

Upolu: 2 ♀♀, 11.vi.1889 (Lister); Apia, 1 ♀, v.1896 (de la Garde); 1 ♀, 4.xii.1921 (Armstrong); 3 ♂♂, 14, 15.ix.1923 (Swezey and Wilder); 1 ♀, 24.i.1924; Malololelei, 1 ♂, 3 ♀♀, 22, 23.ii., 14.vi.1924; Aleipata, 2 ♂♂, iv., v.1924; Malifa, 10.vi.1905 (Rechner); Matootua, iii.1905 (Rechner); Papaloloa Fall, 11.vi.1905 (Rechner); Vailima, 4 ♂♂, 2 ♀♀, 12.ii., 25. v., 8.vi.1924.

Savaii: vii.1905 (Rechner); Safune, 1 ♂, 6 ♀♀, 4.v.1924 (Bryan); 1 ♀, 21.xi.1925; Fagamalo, 1 ♂, 1 ♀, 3.viii.1924; Satupaitea, 3 ♀♀, 10.viii.1924.

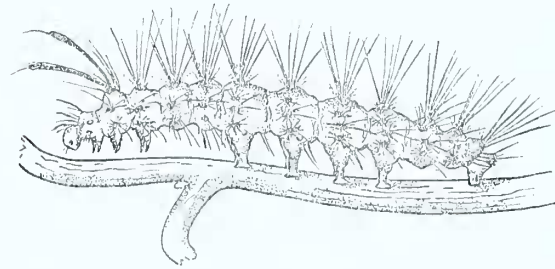
Manua: Ofu, 1 ♀, 27.ii.1926 (Judd).

Professor P. A. Buxton has contributed the following notes on the structure of the larva of *Deilemera alba*.

"The material consists of two mature larvae, in alcohol, collected at Malololelei, Upolu Island, in September 1925, from a small Composite weed, which grew in gardens, and was frequently a food-plant of this species.

*General Description.*—The colours in life were not noted. The larva has been drawn from the specimens in alcohol by my friend Dr. V. B. Wigglesworth (Text-fig. 4). The larva of this species is not as hairy as that of many Arctiidae. On the dorsum of the second thoracic segment is a tuft of setae, thickly feathered toward the tip, longer than the other long setae of the segment and projecting forwards. With this exception all setae appear to the naked eye to be simple, though under the microscope all of them are seen to be shortly feathered. All

the long setae on all parts of the insect are black (in alcohol), and all the short setae are pale. All the verrucae and spiracles are black. There is an indefinite dark subdorsal line, which arises on verruca Beta of the mesothorax, and becomes

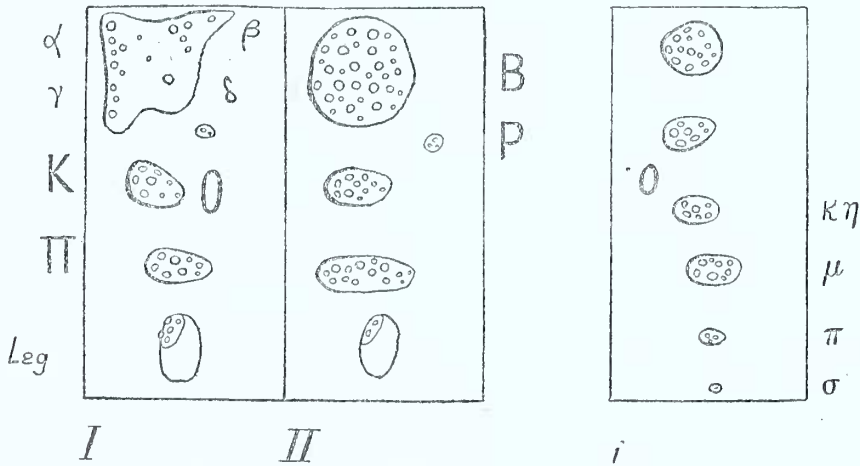


TEXT-FIG. 4.—*Deilemera alba* Pagenstecher.  
Full-grown larva. (Drawn by Dr. V. B. Wigglesworth.)

*Thorax*.—On the prothorax (I, Text-fig. 5) all the setae of the Beta group are on one plate;  $\alpha$  and  $\gamma$  form a continuous row,  $\beta$  is represented by a short

wider on more posterior segments, so that on the third and subsequent abdominal segments it includes both verrucae Beta and Rho; on each abdominal segment the subdorsal lines are also connected across the dorsum, posterior to verruca Beta.

*Head*.—The head presents no features of interest.

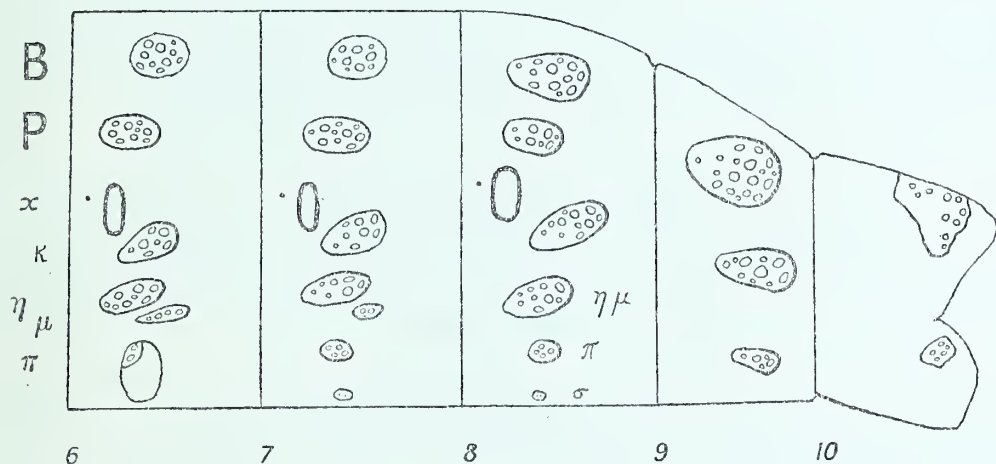


TEXT-FIG. 5.—*Deilemera alba*. Prothorax (I), Mesothorax (II), and first abdominal segment (i) of full-grown larva, seen from left. Only the bases of the setae are indicated.

row, which is separated by a definite gap from  $\delta$ . Rho is a group of four to five small setae on a small brown plate. Mesothorax and metathorax resemble one another, and only differ from prothorax in Beta, which is round, and shows no trace of the separate existence of  $\alpha$  and  $\beta$ . The legs, and the spiracles call for no comment.

*Abdomen*.—Throughout the abdomen  $\alpha$  and  $\beta$  are completely united: Rho is always separate from Beta. The homologies of the setae below the spiracles

are not certain ; difficulties present themselves in attempting to ascribe certain setae to Pi, and its associates. The whole question may require revision, and the study of a large number of genera, and especially of larvae of the first stage. But the notation here used is consistent with Fracker's \* (his Plates III and IV, figures of *Hyphantria*) :  $\kappa$  and  $\eta$  are united on abdominal segments 1 to 3 ; they are separate on segments 4 to 7 ;  $\eta$  and  $\mu$  are united on segment 8. (Text-fig. 6).



TEXT-FIG. 6.—*Deilemera alba*. Abdominal segments 6-10 of full-grown larva.

Pi is on a brown chitinous plate, on the lateral aspect of the proleg, in all segments in which a proleg occurs.  $\sigma$  is a group of small setae, in a subventral position, in all the legless segments.

On segments 1-8 there is a minute single seta, arising from a well-chitinated base, anterior to the spiracle ; I cannot homologise it with any recognised seta, but it is a very definite and characteristic structure. It is marked x in Text-fig. 6. The coalescence of the verrucae in the two terminal abdominal segments is shown in the same figure.

The crochets of the prolegs as in all Arctiidae, are uniordinal, heteroideus, and arranged in a mesoseries.

*Conclusion.*—The larva of *Deilemera alba* has a superficial resemblance to that of a Lymantriid ; this is due to the clavate-plumed setae on the mesothorax. That the resemblance is only superficial, is shown by the absence of glands

\* Fracker, S. B. The Classification of Lepidopterous Larvae. *Illinois Biol. Monogr.* (2) ; July 1915. Forbes, W. T. M. A Structural Study of some Caterpillars. *Ann. Ent. Soc. Amer.* (3), 94-132.

on the dorsum of abdominal segments six and seven. The larva has all the characters of an Arctiid, as defined by Fracker, and by Forbes."

11. *Deilemera mundipicta samoensis*, subsp. n. (Plate XII, fig. 4).

♂ and ♀. In size smaller than the typical subspecies, and more like the Fijian *D. mundipicta fasciata* Walker. The transverse white band of the forewings, which in the Fijian subspecies is narrower than that in any other known subspecies, is in this new subspecies broad at the middle, and is shaped somewhat like that of the Solomon Islands subspecies, *D. mundipicta aluensis*.

Holotype ♂ and allotype ♀. Tutuila : Pago Pago, 14.xii.1925.

Paratypes. Tutuila : 4 ♂♂, 6 ♀♀, xii.1917, iv.1918 (Kellers) ; 1 ♀, 1889 (Lister) ; Pago Pago, 1 ♂, 10.ix.1923 (Swezey and Wilder) ; 1 ♂, ii.1927 (Steffany) ; 1 ♀, 12.iv.1925 (Bryan) ; 3 ♀♀, xii.1924, 14.xii.1925 ; Atauloma, 1 ♂, 2 ♀♀, 11, 12.viii. 1925.

Manua : Tau, 1 ♂, 1 ♀, 21.ii.1926 (Judd).

12. *Argina cribraria* Clerck.

*Ph. [alaena] cribraria* Clerck, *Icones*, ii, pl. 54, 1764.

*Argina cribraria* Clerck, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii. p. 125, 1915.

Upolu : 1 ♀ (Henniger) ; Apia, 2 ♀♀, 29.i.1924, 30.i.1925 ; Moa Moa, 2 ♀♀, 18.iv.1924.

AGROTIDAE.

AGROTINAE

13. *Heliothis armigera* Hübner.

*Noctua armigera* Hübner, *Europ. Schmett.*, Tab. Noctua 79, fig. 370, 1802-1808.

Samoa. 1 ♀, iii-viii.1921 (O'Connor).

It is to be hoped that nothing will occur to disturb further the name *Heliothis armigera*. Hampson (*Cat. Lep. Phal. B. M.*, iv, p. 15, 1903) cites : *Heliothis*, Oechsenheimer, *Schmett. Eur.*, iv, p. 91, 1816, non descr. ; Treitschke, *Schmett. Eur.*, v, 3, p. 215, 1826. Oechsenheimer, however, refers under *Heliothis*, to *Heliothentes* Hübner, which, although not the name of a genus in our sense, is applied to a group indicated by Hübner in his *Tentamen*. I adopt the name from Oechsenheimer, 1816, on the ground of that indication (cf. p. 172).



The first type-citation for the genus *Heliothis* Ochsenheimer appears to be that of D. Thon in Ersch and Gruber, *Allgemeine Encyclopädie der Wissenschaften*, Section II, Part 5, p. 131, where we find the definite statement: "Als Typus beschreiben wir: *H. dipsacea* Linn."

The use of the generic name in this sense was well established long before any attempt was made to upset it, and there was no need for any change to be made. When the trivial name *armigera* was supplanted by *obsoleta* Fabricius, this was done contrary to the rules and accepted practice in nomenclature. *Bombyx obsoleta* Fabricius, Ent. Syst., III (1), p. 465, 1793 (non Fabricius, 1775), is an absolute homonym.

#### 14. *Heliothis assulta* Guenée.

*Heliothis assulta* Guenée, *Species Général des Lépidoptères*, Noct., ii, p. 178, 1852.

*Heliothis separata* Walker, *List Lep. Ins. B. M.*, xi, p. 691, 1857.

*Chloridea assulta* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 125, 144, 1915.

This record is based on two males in the British Museum collection, one of these being Walker's type of *H. separata*. These two specimens are labelled "Navigators' Islands," the old name of the group. Rebel merely repeats Walker's record.

#### HADENINAE.

##### 15. *Tiracola plagiata* Walker (Plate VIII, fig. 2).

*Agrotis plagiata* Walker, *List. Lep. Ins. B. M.*, xi, p. 740, 1857.

Upolu: Malololelei, 2,000 feet, 13 ♂♂, 6, 7.vii.1924; 7 ♀♀, 5, 6, 7.vii.1924.

Tutuila: 1 ♀, iv.1918 (Kellers); Pago Pago, 2 ♀♀, ii.1924 (Steffany).

##### 16. *Tiracola rufimargo samoensis*, subsp. n. (Plate VIII, fig. 1).

♂. Palpus pinkish buff, the first and second segments with chocolate to fuscous black shading laterally. Antennal shaft pinkish buff irrorated with terra cotta to fuscous. Head with frons pinkish buff, vertex greyish olive. Thorax greyish olive streaked with drab and benzo brown, with a prominent patch of fuscous black on the mesothorax posteriorly. Abdomen pinkish buff, dorsally almost entirely suffused with benzo brown, except for the ochraceous



buff terminal tuft, ventrally irrorated with fuscous black with the segments distally tinged with terra cotta. Pectus pinkish buff, strongly suffused with terra cotta, and with strong fuscous black lateral shading from just above middle of eyes back below insertion of forewings, and two similar streaks ventrally from the eye margins; legs pinkish buff to ochraceous buff, with fuscous black markings, most pronounced on the mid tibia. Forewing greyish olive to drab, the basal half with patches of ochraceous orange to ochraceous tawny shading, the area before the termen tinged with vinaceous-russet; a chocolate antemedial fascia forming a sharp angle between upper margin of cell and anal vein; trace of a medial fascia, oblique from middle of costa to lower angle of cell, thence oblique to middle of inner margin; a large reniform stigma outlined in fuscous black, enclosing some bright patches of ochraceous orange; a postmedial series of prominent fuscous black dots on the veins; traces of a gently sinuous subterminal line, accentuated by ochraceous orange shading and a dash of fuscous black between veins  $M_1$  and  $M_2$ ; a terminal series of interneural vandyke brown dots, succeeded by a fine fuscous terminal edging, and vinaceous russet fringe; there are also a number of spots along the costa, including three small dots before the apex. Hindwing light buff to pinkish buff, distal half suffused with terra cotta lightly irrorated postmedially to subterminally with fuscous; fringe light buff, vinaceous tawny through its middle. Underside: forewing almost entirely terra cotta to vinaceous tawny, except for a little drab in the subterminal area showing up a terminal series of interneural terra cotta dots, and for the light buff inner marginal area, which broadens basad and runs into base of cell; hindwing light buff to pinkish buff, suffused with terra cotta over an area extending from end of cell to apex and from costa to just below vein  $M_1$ , this area being further marked with little fuscous black dashes; one prominent fuscous black spot postmedially on vein Sc; silky hair at base of cell Congo pink, and traces of the same colour postmedially to termen from the terra cotta to vein  $A_2$ ; a terminal series of interneural terra cotta dots from vein Rs to vein  $Cu_1$ ; fringe as on upper side.

♀. The only ♀ available is very dark, the forewings being of a warm sepia, strongly infusate, from base to antemedial fascia much lighter (argus brown); the reniform stigma is almost obscured, but there is a definite festooning (concavities terminad) of the postmedial fascia. The hindwings are pale at the base, but heavily infusate beyond the postmedial area. Underside: both fore and hindwings densely irrorated with fuscous to fuscous black, the fore-

wing with a pronounced postmedial fuscous black dash from costa to vein  $M_1$ , the hindwing with a postmedial series of dashes on veins Sc to  $Cu_2$ , fuscous shading running from costa to vein Rs.

Expanse ♂, 60 mm. ; ♀ 62 mm.

Holotype ♂. Upolu : Malololelei, 2,000 feet, 7.vii.1924.

Allotype ♀. Upolu : Malololelei, 2,000 feet, 6.vii.1924.

Paratypes, 2 ♂♂ from the same locality, 6.vii.1924.

The hindwing in the typical subspecies, *T. rufimargo rufimargo* Warren, is uniformly dark to the pale fringe, while in the Samoan subspecies the proximal two-thirds is not infusate.

#### ACRONICTINAE.

##### 17. *Calloplistria meridionalis nauticorum*, subsp. nov. (Plate XII, fig. 8).

(*Calloplistria meridionalis* Collenette, *Trans. Ent. Soc. Lond.*, lxxvi, p. 471, text-fig. 1, pl. 21, fig. 4, 1928.)

The subspecies of *C. meridionalis* occurring in Samoa, the New Hebrides and the Vavau Group (Tonga) are noticeably distinct from the typical subspecies which inhabits Rapa in one feature, viz., the course of the postmedial fascia. In the typical subspecies this fascia has a definite kink (concavity terminad) between veins  $Cu_2$  and  $A_2$ , whereas in *C. m. nauticorum* it is only slightly bowed in that region. This subspecies was recorded as *Eriopus maillardi* Guenée by Rebel (*Denkschr. K. Akad. Wiss. Wien, Math.-Naturw., Kl.*, lxxxv, p. 425, 1910 : 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915).

Holotype ♀. Tutuila : Pago Pago, v.1896 (de la Garde).

Allotype ♂. Tutuila : Pago Pago, ii.1924 (Steffany).

Paratypes. Upolu : Malololelei, 2,000 feet, 1 ♀, 1.vii.1924 (Armstrong) ; 1 ♀, 5.vii.1924.

Tutuila : Pago Pago, 2 ♂♂, 1 ♀, i., 14.ix.1924 (Steffany).

Another ♂, taken by Kellers.

##### 18. *Calogramma festiva* Donovan.

*Phalaena festiva* Donovan, *Epit. N. H. Ins. New Holland*, pl. 36, 1805.

*Calogramma festiva* Donovan, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 125, 1915.

Tutuila : Pago Pago, 1 ♂, 21.ix.1923 (Steffany) ; 1 ♀, iv.1918 (Kellers).

This species was not represented in the material collected by Buxton and

Hopkins. Rebel records one specimen taken on Upolu at Apia by Dr. Friederichs.

### 19. *Prodenia litura* Fabricius.

*Noctua litura* Fabricius, *Syst. Ent.*, p. 601, 1775.

*Hadena littoralis* Boisduval, *Nouv. Ann. Mus. Hist. Nat. Paris*, ii [2], p. 239, 1833; *Faun. Ent. Madag., Lep.*, p. 91, pl. 13, fig. 8, 1833.

*Prodenia littoralis* Boisduval, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 424, 1910.

*Prodenia litura* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 125, 1915.

Upolu : Apia, 1 ♂, 2 ♀♀, 18.ii., 26.v.1922, 14.vi.1924 (Armstrong); 1 ♂, 4 ♀♀, 20.iv., 19.v., ix.1924, viii.1925; 1 ♀, 15.ix.1923 (Swezey and Wilder); 2 specimens (Friederichs), recorded by Rebel, 1915; Malifa, 2 specimens, 10.v., 6.viii.1905 (Rechinger), recorded by Rebel, 1910; Malololelei, 2,000 feet, 1 ♂, 2 ♀♀, 6, 7, 8.v.1924 (Armstrong); 2 ♂♂, 3 ♀♀, 24.ii., 7, 9.v.1924.

Tutuila : Pago Pago, 5 ♂♂, 1 ♀, 14.ix., x.1923, i.1924; Leone Road, 2 ♀♀, 22.iii.1926 (Judd).

Manua : Ofu, 1 ♀, 27.ii.1926 (Judd).

A widely distributed species, found throughout Africa, and in addition ranging from eastern Europe to the Sandwich Islands. The larva is injurious to cotton, tobacco and maize, and feeds on many other plants.

### 20. *Spodoptera mauritia* Boisduval.

*Hadena mauritia* Boisduval, *Nouv. Ann. Mus. Hist. Nat. Paris*, ii [2], p. 240, 1833; *Faun. Ent. Madag., Lep.*, p. 92, pl. 13, fig. 9, 1833.

*Spodoptera mauritia* Boisd., Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 424, 1910.

*Spodoptera mauritia* Boisduval, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 125, 1915.

A widely distributed species, found throughout Africa, and in addition ranging throughout the Indo-Australian region, and also many of the Pacific Islands. The larva is injurious to rice in the Punjab.

Samoa. 1 ♂, 1 ♀, iii-viii.1921 (O'Connor); 1 ♂ (Reincke), recorded by Rebel, 1910.

Upolu : Apia, a number of specimens (Friederichs), recorded by Rebel, 1915; 1 ♀, 14.ix.1923 (Swezey and Wilder); 1 ♂, 4 ♀♀, 3.ii., 18.x.1922, 14.ii.1923, 4.iii., 10.v.1924 (Armstrong); 3 ♂♂, 14 ♀♀, 5.v., 27.vi.1924, 26.iii.1925; 7, 19, 22.ii., 8, 18.v., 7, 19, 21, 30.vi., 18.x., 7.xi., 24.xii.1924; Malo-

lolelei, 2,000 feet, 3 ♂♂, 5 ♀♀, 12, 24, 25.ii., 6.vii.1924, 21.iv.1925 ; Malifa, 28.v., 6.vi.1905 (Rechinger) ; Motootua, 31.v.1905 (Rechinger) ; Vaimea, 7.vi.1905 (Rechinger).

Savaii : Salailua, 2 ♀♀, 12.viii.1924.

Tutuila : Pago Pago, 1 ♂, x.1923 ; 10 ♀♀, 14.ix., x.1923, i., ii.1924 (Steffany) ; Leone Rd., 2 ♀♀, 22.iii.1926 (Judd).

Manua : Ofu, 3 ♀♀, 27.ii., 2.iii.1926 (Judd).

## 21. *Perigea illecta* Walker (Plate VII, figs. 10, 11 ; Plate VIII, figs. 6, 7).

*Perigea illecta* Walker, *List Lep. Ins. B. M.*, xxxii, p. 684, 1865.

*Perigea capensis* Guenée Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 425, 1910, non Guenée.

*Perigea capensis* Guenée Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915, non Guenée.

It is unfortunate that the name "*Perigea capensis*" has been wrongly applied to this species, because the moth is of economic importance and the name has in consequence become widely diffused through economic entomological literature. I have been unable to discover the type of *Perigea capensis*, which should be in the Oberthür collection, but Guenée's description leaves no doubt in my mind that the moth he described was certainly not the one with which we are here concerned. There is scope for more research in connection with the geographical distribution of the species and its possible representation by subspecies in various parts of the world. At present, however, I cannot find constant differentiating characters and so I prefer to leave the Samoan insect under its new name *Perigea illecta*.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 1 ♂, 3.v.1922, 2 ♀♀, 14.ii., 10.iii.1923 (Armstrong) ; 2 ♂♂, 19.ii., 31.viii.1924 ; Malololelei, 2 ♀♀, 2.vii.1924 (Armstrong) ; Malololelei, 2,000 feet, 9 ♂♂, 13, 22, 25.ii.1924, 21.iv.1925, 7 ♀♀, 22-24.ii., 25.vi.1924 ; 20.ix.1925 ; Malifa, 10, 26.vi., 29.vii., 6.viii.1905 (Rechinger).

Tutuila : Pago Pago, 2 ♂♂, 3 ♀♀, i.1924 (Steffany).

## 22. *Elydna nonagrica* Walker.

*Curgia nonagrica* Walker, *Journ. Linn. Soc., Zoology*, vii, p. 166, 1864.

*Amphipyra agrotoides* Snellen, *Tijdschr. v. Ent.*, xxiii, p. 77, pl. 6, fig. 6, 1880.

This species is widely, and wrongly, known as *Elydna reclusa* Walker.

Upolu : Malololelei, 2,000 feet, 2 ♂♂, 6, 7.vii.1924, 1 ♀, 9.vii.1924.



23. *Chasmina tibialis* Fabricius.

*Chasmina tibialis* Fabricius, *Syst. Ent.*, p. 578, 1775.

*Leocyma tibialis* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv., p. 425, 1910.

*Chasmina tibialis* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 125, 1915.

Samoa. 2 ♀♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 1 ♀, 1.iii.1922 (Armstrong) ; 2 ♂♂, 14.ix.1923, 1 ♀, 9.ix.1923 (Swezey and Wilder) ; 5 ♀♀, 28.i., 2.iii., 29, 30.iv., 30.v.1924 ; Malololelei, 2,000 feet, 3 ♂♂, 24.ii.1924, 2 ♀♀, 24, 25.ii.1924 ; Malifa, a number of specimens of both sexes, 21.vi-viii.1905 (Rechinger). A number of specimens, 1912-1913 (Friederichs) ; Vailima, 1 ♀, 19.iii.1924.

Savaii : 1 ♀, June, 1905 (Rechinger).

Tutuila : 3 ♂♂, 3 ♀♀ (Kellers) ; Pago Pago, 9 ♂♂, 11 ♀♀, bearing the following dates 14, 21.ix., x.1923, i, ii.1924 (Steffany).

Manua : Ofu, 3 ♂♂, 1 ♀, 27.ii.1926 (Judd).

I suspect that this species may prove to be another of which further study will provide us with evidence of geographical variation. The type is a female, and I can find no evidence to show exactly whence it originated, neither can I exactly match the female genitalia. Much more material from other islands in the Pacific Ocean is required before adequate studies of these interesting species can be made. The Samoan specimens are, as far as I can at present judge, superficially indistinguishable from the type.

## ERASTRIINAE.

24. *Eublemma rivula* Moore.

*Thalpochares rivula* Moore, *Descr. Lep. Ins. Coll. Atk.*, p. 140, 1882.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 1 ♀, 13.ix.1923 (Swezey and Wilder) ; 1 ♂, ii.1924, 1 ♀, x.1925 ; Aleipata, 1 ♀, iv.-v.1924.

Savaii : Tuasivi, 1 ♂, 1 ♀, 9.ii.1924.

Manua : Tau, 1 ♀, 27.ix.1923 (Swezey).



25. *Eublemma pudica* Snellen.

*Thalpochares pudica* Snellen, *Tijdschr. v. Ent.*, xxiii, p. 63, pl. 5, fig. 5, 1880.

*Eublemma pudica* Snellen, Hampson, *Cat. Lep. Phal. B. M.*, x, p. 77, 1910.

Upolu : Lalomanu, Aleipata, 1 ♂, xi.1924.

26. *Oruza cariosa* Lucas.

*Thermesia cariosa* Lucas, *Trans. Nat. Hist. Soc. Queensland*, i, p. 8, 1894.

*Oruza cariosa* Lucas, Hampson, *Cat. Lep. Phal. B. M.*, x, p. 254, pl. 156, fig. 13, 1910.

*Oruza cariosa* Lucas, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 126, 1915.

Samoa. 1 ♂ (Mathew), recorded by Hampson. An otherwise Australian species.

27. *Amyna natalis* Walker.

*Berresa natalis* Walker, *List Lep. Ins. B. M.*, xvi, p. 214, 1858.

*Amyna natalis* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 126, 1915.

Upolu : Apia, 1 ♀, 14.ix.1923 (Swezey and Wilder) ; 2 ♂♂, 21.vi., ix.1924,  
1 ♀, viii.1924.

Savaii : Tuasivi, 3 ♂♂, 8, 9.ii.1924, 3 ♀♀, 8.ii.1924.

Tutuila : Pago Pago, 1 ♀, x.1923 (Steffany).

28. *Amyna octo* Guenée.

*Perigea octo* Guenée, *Spec. Gén., Noct.*, i, p. 233, 1852.

*Amyna octo* Guenée, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 425, 1910.

*Amyna octo* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 126, 1915.

Upolu : Apia, 1 ♂, 24.viii.1924 (Armstrong) ; Malololelei, 1 ♀, 18.iv.1924 (Armstrong) ; Lalomanu, 1 ♀, xi.1924.

Savaii : Salailua, 1 ♂, 12.viii.1924.

Tutuila : Pago Pago, 1 ♀, 14.xii.1925.

29. *Eustrotia ritsemae* Snellen.

*Erastria ritsemae* Snellen, *Tijdschr. v. Ent.*, xxiii, p. 57, pl. 5, fig. 2, 1880.

*Erastria ritsemae* Snellen, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 426, 1910.

*Erastria ritsemae* Snellen, Rebel in Galvagni, *Verh. Zool.-bot. Ges. Wien*, lxii, p. (121), 1912.

*Eustrotia ritsemae* Snellen, Hampson, *Cat. Lep. Phal. B. M.*, x, p. 588, 1910.

*Erastria ritsemae* Snellen, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 126, 1915.

Samoa. 1 ♂, 1920 (O'Connor).

Upolu : 1 ♂, xii.1910 (Prowazek) ; Apia, 1 ♀, 14.ix.1923 (Swezey and Wilder) ; 1 ♂, 1 ♀, 4.v.1924 (Armstrong) ; 1 ♀, ii.1924 ; Malololelei, 3 ♂♂, 24.ii.1924, 21.iv.1925 ; 1 ♀, 25.vi.1924 ; Lalomanu, 1 ♀, xi.1924.

Savaii : Fagamalo, 1 ♂, 10.ii.1924 ; Tuasivi, 1 ♂, 8.ii.1924.

Tutuila : Pago Pago, 4 ♀♀, 18.ix.1923, i., ii.1924 (Steffany) ; 2 ♀♀, 10.ix.1923 (Swezey) ; 2 ♂♂, 22.ix.1923, ii.1924 ; Amauli, 1 ♂, 1 ♀, 9.ix.1923 (Swezey).

Manua : Tau, 1 ♂, 27.ix.1923 (Swezey).

## EUTELIINAE.

30. *Bombotelia simplex* Walker.

*Eutelia simplex* Walker, *List Lep. Ins. B. M.*, xxxiii, p. 824, 1865.

Upolu : Apia, 1 ♂, 24.vi.1924 (Armstrong) ; Malololelei, 1 ♀, 26.vi.1922 (Armstrong).

31. *Phlegetonia fasciatrix* Semper.

*Eurhipia fasciatrix* Semper, *Reise Arch. Philipp., Schmelt.*, ii, p. 711, pl. 66, fig. 20, 1902.

Upolu : Apia, 1 ♀, 10.iii.1923 (Armstrong).

32. *Phlegetonia delatrix* Guenée.

*Penicillaria delatrix* Guenée, *Spec. Gén., Noct.*, ii, p. 304, 1852.

Samoa. 1 ♀, 1920 (O'Connor).

33. *Paectes canescens*, sp. n. (Plate VI. fig. 14.)

♀. Palpus cartridge buff, outwardly irrorated with avellaneous and bone-brown mixed. Antenna with a tuft at base, cartridge buff tinged with avellaneous, the shaft dorsally with proximal half cartridge buff banded with bone brown, distal half infusate, ventrally russet. Head and thorax with cartridge

buff, sulphur yellow, avellaneous, fuscous and bone brown mixed, the tegula streaked with *whitish*.\* Abdomen dorsally and ventrally similarly coloured, with hardly any *whitish*, and with traces of fuscous black distally on most segments dorsally, more pronounced on basal segments. Pectus cartridge buff, shaded brownish drab below eyes. Legs cartridge buff, irrorated with fuscous, densely in case of foreleg. Forewing fuscous extensively suffused with *whitish*, except along costa and between postmedial fascia and termen below vein  $M_2$ ; some sulphur yellow scales sub-basally below costa; antemedial fascia commencing below cell, consisting of an inwardly oblique line of velvety bone brown scales preceded by sulphur yellow shading, and succeeded by a patch of fuscous shading with a few sulphur scales near inner margin; discocellulars marked with velvety bone brown, with traces of an oblique fuscous medial fascia from end of cell to middle of inner margin; postmedial fascia sulphur yellow, starting on costa in direction of tornus, but immediately sweeping out suddenly towards termen in a deep loop, the lower arm of which runs back towards the cell along vein  $M_2$ , suddenly bending when opposite its costal commencement and running obliquely and straight to inner margin; the loop is edged proximally with velvety bone brown, the oblique portion of the postmedial fascia being edged proximally with fuscous, its distal edge being entirely velvety bone brown except for about 2 mm. from the costa; a triangular fuscous shade immediately beyond postmedial with base on inner margin; the *whitish* suffusion very pronounced beyond loop of postmedial, leaving an oval fuscous spot just before apex, and accentuating a fuscous shade between veins  $M_2$  and  $Cu_1$ ; a sinuous subterminal fascia, not very distinct, from postmedial loop to inner margin; a pre-terminal velvety bone brown line parallel with a similar terminal line; fringe fuscous, chequered with cartridge buff triangles at vein-ends, the apices of the triangles directed, distad but not quite reaching the edge of the fringe. Hindwing cartridge buff heavily shaded with fuscous, especially in distal half; an indefinite sinuous medial fascia, beyond which the fuscous shading increases to form a broad fascia postmedially to subterminally; two conspicuous confluent patches of cartridge buff before the termen, one on each side of vein  $Cu_2$ , with between them a small patch of light buff scales outlined with bone brown, marking the end of the velvety bone brown pre-terminal line, some *whitish* irroration between veins  $Sc$  and  $M_2$ , before the termen; terminal line velvety bone brown; fringe

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\* Terms indicating colour conditions not included in Ridgway (Cf. p. 187, footnote) are printed in italics.

similar to that of forewing. Underside of both fore and hindwings cartridge buff heavily shaded with fuscous, the forewing more densely than the hindwing; forewing with a very small fuscous spot at middle of discocellulars; faint traces of an oblique diffuse medial fascia from  $M_1$  well beyond end of cell, to middle of inner margin; postmedial fascia deeply bowed—but without the loop present in the upper side postmedial—crenulate, cartridge buff edged proximally and distally with fuscous; subterminal fascia cartridge buff, interrupted to form a series of dashes; terminal line velvety bone brown preceded by cartridge buff; fringe as on upperside; hindwing similar, but with discocellular spot triangular proximad, medial shade sinuous, prominent, postmedial fascia with a broader curve than that of forewing, subterminal fascia continuous, commencing at about vein  $M_1$ , broadening towards anal angle.

Expanse 35 mm.

Holotype ♀. Upolu: Malololelei, 2,000 feet, 22.iv.1925.

Paratype ♀. Upolu: Malololelei, 2,000 feet, 29.xi.1924.

This species seems closely related to *P. cyanodes* Turner.

#### STICTOPTERINAE.

##### 34. *Stictoptera hepatica* Rebel.

*Stictoptera hepatica* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 126, 148, pl. 1, fig. 8, 1915.

Samoa. 1 ♂ and later 3 ♂♂, 2 ♀♀ (Friederichs).

Upolu: Apia, 2 ♂♂, x.1925; Malololelei, 2 ♂♂, 22.ii., 5.vi.1924, 5 ♀♀, 23, 24.ii, 5.vii.1924.

##### 35. *Gyrtona hopkinsi*, sp. n. (Plate XII, fig. 11).

♂. Palpus deep brownish drab finely irrorated with tilleul buff, cartridge buff ventrally. Antennae deep brownish drab. Thorax deep brownish drab mixed with pale brownish drab, patagium with a fine transverse medial fuscous black fascia. Tergum light buff shaded with pale brownish drab. Pectus light buff. Foreleg deep brownish drab, irrorated with cartridge buff, tibia with some long light buff hair-scales, tarsus with each segment narrowly ringed distally with cartridge buff; mid and hind legs light buff, the mid tibia shaded with brownish drab. Venter light buff. Forewing deep brownish drab, mottled with light brownish drab and some light buff; four fine, fuscous black, crenulate, gently bowed lines before the middle, all concavities basad; a prominent

reniform stigma, finely outlined with fuscous black, a dark mark at its middle giving it the appearance of being transversely bisected; postmedial fascia consisting of a fine, fuscous black, dentate line deeply bowed round end of cell (concavity basad), slightly oblique and bowed (concavity terminad) from vein  $Cu_1$  to inner margin; a subterminal fascia parallel with termen, of fuscous black dots, those between  $R_5$  and  $M_1$ , and  $M_2$  and  $Cu_1$  the most prominent, succeeded by some pallid brownish drab markings, dentate terminad; a series of fuscous black terminal lunules; fringe shaded with fuscous black from apex to middle of wing. Hindwing light buff, the distal half shaded with fuscous; fringe fuscous proximally, light buff distally. Underside light buff, shaded with avellaneous. Expanse 37 mm.

♀. Similar, but the ground colour of the forewing pale brownish drab.

Holotype ♂, allotype ♀ and paratype ♀.

Upolu: Malololelei, 2,000 feet, 5.vi.1924.

### 36. *Gyrtona divitalis* Walker.

*Gyrtona divitalis* Walker, *List Lep. Ins. B. M.*, xxvii, p. 91, 1863.

Upolu: Malololelei, 2,000 feet, 1 ♀, 25.vi.1924.

### SARROTHRIPINAE.

#### 37. *Microthripa buxtoni*, sp. n. (Plate VII, fig. 3).

♀. Palpus light buff, shaded on outer side with sepia. Head, thorax and tergum tilleul buff to light buff, shaded with sepia. Pectus and venter light buff. Legs light buff, foreleg shaded with sepia. Forewing tilleul buff to light buff, markings sepia; a dark more or less rectangular spot on costa at base; a dark shade commencing antemedially on costa and widening out to fill the space between antemedial fascia (not defined) and postmedial fascia below the cell; a prominent dark spot at discocellulars; postmedial fascia regularly interrupted at veins, bowed (concavity basad) round end of cell, then oblique to middle of inner margin; subterminal fascia similar, but parallel with termen, and succeeded by a similar fascia well before termen; a fine dark terminal line. Hindwing cartridge buff lightly suffused with sepia over distal half. Underside cartridge buff, forewing lightly suffused with sepia except for a broad area along inner margin. Expanse 12 mm.

Holotype ♀.

Upolu: Malololelei, 2,000 feet, 21.iv.1925.



38. *Apothripa vailima*, sp. n. (Plate XII, fig. 10).

♂. Palpus cartridge buff suffused with deep olive. Antennal scaling deep olive. Head, thorax and tergum light buff tinged with deep olive. Pectus light buff. Venter light buff tinged with deep olive. Legs light buff, shaded with deep olive, the foreleg most strongly, the hind leg slightly. Forewing deep olive, with the markings as in the figure, the lighter ones cartridge buff, the darker ones dark olive. Hindwing cartridge buff, shaded distally with fuscous. Underside forewing drab grey, hindwing cartridge buff lightly suffused with fuscous except in and immediately around cell. ♀ similar. The pattern is very variable, the transverse markings sometimes not exhibited, occasionally a prominent dark olive or olive brown fascia extending longitudinally through the middle of the wing. Expanse 20–22 mm.

Holotype ♂. Upolu : Apia, 22.v.1924.

Allotype ♀. Upolu : Vailima, 3.vi.1924.

Paratypes. Upolu : Apia, 1 ♂, 13.iv.1924 (Armstrong) ; 2 ♀♀, 31.iv., 26.v.1924 ; Vailima, 1 ♀, 10.iv.1925.

39. *Barasa rebeli*, sp. n. (Plate VII, fig. 2).

*Barasa tetragramma* Hampson Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 424, pl. 18, fig. 13, 1910 (non Hampson).

*Barasa tetragramma* Hampson, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 127, 1915 (non Hampson).

♂. Palpus white, shaded and irrorated with chocolate. Antenna at base white irrorated with vinaceous fawn, then fuscous. Head and thorax white irrorated with avellaneous, vinaceous fawn and fuscous. Abdomen white, with a fuscous-tipped white basal crest, and some mouse grey shading dorsally. Pectus and legs white, the foreleg with the femur heavily shaded with chocolate and fuscous black, the tibia irrorated or blotched with chocolate, the tarsus with the first segment white irrorated with chocolate, the rest fuscous to fuscous black. Forewing white, with the pattern picked out in cinereous, avellaneous to vinaceous fawn, fuscous, chestnut brown to chocolate, and fuscous black ; a basal patch, fuscous mixed with vinaceous fawn and cinereous, edged on costa with chocolate, distally with fuscous black, and not extending to inner margin ; a pronounced zig-zag antemedial fascia, white, edged vinaceous tawny proximad, with fuscous to fuscous black edging distad, from costa to lower margin of cell, where there is a pronounced dot at base of vein Cu<sub>2</sub>, followed by another pro-

minent dot on the anal vein ( $A_2$ ) ; medial area with heavier vinaceous fawn and fuscous irroration forming a shade ; a sepia spot at end of cell ; an irregular white postmedial fascia, strongly bowed round end of cell, accentuated proximad by fuscous black dots on the veins (that on  $Cu_2$  most prominent), edged distad by a vinaceous fawn shade ; a fuscous black subterminal line, less deeply bowed than postmedial, obsolescent at costa, between veins  $M_1$  and  $M_3$ , and between  $Cu_2$  and inner margin ; all the fasciae commencing with chocolate on costa ; strong vinaceous fawn irroration before the termen, forming a distinct shade broadest at costa, where there is a fuscous black apical mark ; a series of fuscous black terminal dots on veins ; fringe variegated vinaceous fawn, white and fuscous. Hindwing white, the distal third lightly shaded fuscous ; fringe white.

Underside : forewing tawny olive to fuscous, costa with white edge, tinged with chocolate at base with three chocolate dashes before apex, fringe almost entirely white ; hindwing white, shaded tawny olive to fuscous from cell to costa, distal fourth infusate ; fringe white with a few fuscous scales.

♀. Larger, markings somewhat lighter. Underside forewings tawny olive rather than fuscous.

Expanse, ♂ 22 mm., ♀ 26 mm.

Holotype ♂. Upolu : Malololelei, 2,000 feet, 24.ii.1924.

Allotype ♀. Upolu : Malololelei, 2,000 feet, 21.iv.1925.

Paratypes. Samoa. iii.-viii.1921 (O'Connor).

Upolu : Apia, 1 ♂, 13.ix.1923 (Swezey and Wilder) ; 2 ♂♂, 1 ♀, ix., 17.xi.1924. Malololelei, 2 ♂♂, 2 ♀♀, 24.ii.1924, 21.iv.1926 ; Siumu, 1 ♂, 24.xi.1923 (Armstrong).

Tutuila : Pago Pago, 2 ♂♂, 1 ♀, i, ii.1924 (Steffany).

#### 40. *Characoma scoparioides* Walker.

*Corticata scoparioides* Walker, *Journ. Linn. Soc., Zool.*, vii, p. 53, 1863.

*Characoma scoparioides* Walker, Hampson, *Cat. Lep. Phal. B. M.*, xi, p. 230, 1912.

Upolu : Apia, 1 ♀, 14.ix.1923 (Swezey and Wilder).

I suspect that this moth lacks the areole in the forewing, and may belong more properly in the genus *Dilophothripa*.

#### 41. *Mniothripa lichenigera* Hampson.

*Giaura lichenigera* Hampson, *Ann. Mag. Nat. Hist.* (7), xvi, p. 543, 1905.

*Mniothripa lichenigera* Hampson, *Cat. Lep. Phal. B. M.*, xi, p. 261, 1912.

Tutuila : 1 ♂, 1 ♀ (Kellers).

## WESTERMANNIINAE.

42. *Earias huegeli* Rogenhofer.

*Earias huegeli* Rogenhofer, *Verh. zool.-bot. Ges. Wien*, xx, p. 872, 1870.

*Earias huegeli* Rogenhofer, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 127, 1915.

Upolu : Apia, 1 ♂, vii.1896 (de la Garde) ; Mulifanua, 1 ♀, 27.vii.1925 (Wilder).

43. *Earias luteolaria* Hampson.

*Earias luteolaria* Hampson, *Ill. Lep. Het. B. M.*, viii, p. 46, pl. 139, fig. 16, 1891.

*Earias uninotata* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 424, 1910 (non Walker).

*Earias luteolaria* Hampson, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 127, 1915.

The material available for clearing up the difficulties connected with the synonymy of *E. uninotata* Walker, *E. flavida* Felder and *E. luteolaria* Hampson is insufficient to make a final statement possible at present, but as far as I am able to judge it is safe to use the name *E. luteolaria* Hampson for the Samoan species.

Samoa. 1 ♀, iii-viii, 1921 (O'Connor).

Upolu : 1 ♂ (Henniger) ; Apia, several specimens (Friederichs) ; 1 ♂, vii.1925, 1 ♀, 21.ix.1924 ; Malololelei, 3 ♀♀, 24, 25.ii.1924 ; Malifa, 1 ♀, 28.v.1905 (Rechinger).

Tutuila : 1 ♂, 1 ♀ (Kellers) ; Pago Pago, 4 ♀♀, x.1923, i.1924 (Steffany).

44. *Maceda mansueta* Walker.

*Maceda mansueta* Walker, *List Lep. Ins. B. M.*, xiii, p. 1141, 1857.

*Maceda mansueta* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 425, 1910.

*Maceda mansueta* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 127, 1915.

Samoa. 2 ♂♂, 1 ♀, 1920 (O'Connor).

Upolu : Apia, 2 ♂♂ (Friederichs), 1 ♀, 3.ii.1924 (Armstrong) ; 2 ♀♀, 27.iii.1924, x.1925 ; Malololelei, 1 ♂, 11.vii.1925, 3 ♀♀, vii.1925, 12.vii.1925 (Wilder) ; 5 ♂♂, 22, 24, 25.ii.1924, 21.iv.1925, 5 ♀♀, 24.ii.1924, 25.vi.1924, 5.vii.1924, 18.viii.1924 ; Malifa, 1 ♂, 1 ♀, 9, 10.vi.1905 (Rechinger) ; Vailima, 1 ♀, 22.xii.1924.

45. *Maurilia iconica* Walker.

*Anomis iconica* Walker, *List Lep. Ins. B. M.*, xiii, p. 992, 1857.

*Churia arcuata* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 426, 1910 (non Walker).

*Maurilia iconica* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 127, 1915.

Upolu: 1 ♀, viii.1905 (Rechinger); 4 specimens, including at least 1 ♀ (Friederichs); Apia, 1 ♀, 13.ix.1923 (Swezey and Wilder); 1 ♂, 1 ♀, 10.x.1922 (Armstrong); Malololelei, 1 ♂ (very large), 6.vi.1924.

Tutuila: Pago Pago, 1 ♂, 1 ♀, i.1924 (Steffany).

## CATOCALINAE.

*Anomocala*, gen. nov.

Proboscis fully developed; palpus with the second segment obliquely upturned reaching level of vertex, broadly and smoothly scaled, the third segment porrect, slender, smoothly scaled, half as long as second; frons with conical tuft of hair reaching forward to palpus; eye large, round, prominent; antenna (♀ only known) with very fine short bristles; thorax clothed with scales and without noticeable crests; fore tibia outwardly fringed with hair-scales; abdomen without crests. Forewing with the costa slightly bowed at base and apex, termen angled at vein  $M_3$ , slightly crenulate; vein  $R_3$  from  $R_2$  anastomosing with  $R_4$  to form areole;  $M_1$ ,  $M_2$ ,  $M_3$  and  $Cu_1$  from the cell;  $Cu_2$  from cell well before the angle. Hindwing with the termen rounded to vein  $Cu_2$ , crenulate; veins  $Rs$  and  $M_1$  connate,  $M_2$  from just above lower angle,  $M_3$  and  $Cu_1$  connate,  $Cu_2$  well before the angle of the cell.

Genotype: *Anomocala hopkinsi* Tams, sp. nov.

46. *Anomocala hopkinsi*, sp. nov. (Plate VI, fig. 16; Plate VII, fig. 5).

♀. Palpus with the second segment mummy brown outwardly, the third segment warm buff. Antenna sepia. Head with frons clothed with light ochraceous buff scales, vertex light buff, to fuscous occipitally. Thorax cinnamon brown to russet. Abdomen greyish olive to drab, with a small terminal tuft of light ochraceous buff. Pectus clothed with white-tipped fuscous hair-scales, mixed with some light buff. Legs sepia, the fore tibia irrorated with white, the mid tibia warm sepia. Underside of abdomen greyish olive, the segments edged with olive buff. Forewing russet to Mars brown with some traces



of chestnut brown suffusion, strongly irrorated with black; a black spot in middle of cell; two small chestnut brown and black spots near the lower angle of the cell, one between veins  $M_3$  and  $Cu_1$ , and the other close to it just below vein  $Cu_1$ ; a black, interrupted, zig-zag subterminal fascia commencing very close to apex, forming a prominent black spot between veins  $R_5$  and  $M_1$ , and becoming less pronounced towards tornus, ending in a distinct spot before the tornus and above vein  $A_2$ ; the postmedial fascia is preceded, between veins  $R_1$  and  $Cu_1$ , by some irregular blotches of black scaling beyond the end of the cell; a terminal series of interneural black dots joined by a fine crenulate blackish brown line. Fringe warm buff suffused with russet. Hindwing with a light buff ground entirely suffused with fuscous, fringe warm buff.

Underside: forewing buff brown, with some drab to greyish olive in the disc; hindwing much as on upperside, the fuscous suffusion not so pronounced, especially towards inner margin; on the discocellulars a distinct light buff spot accentuated on both sides by fuscous; a faintly indicated postmedial line.

Expanse: 46 mm.

Holotype ♀. Upolu: Malololelei, 2,000 feet, 6.vii.1924.

### *Cymodegma*, gen. nov.

Proboscis fully developed; palpus obliquely upturned, the second segment broadly scaled in front and reaching level of vertex, the third segment smoothly scaled and half as long as second; frons simple; eye large, round, prominent; antenna (♀ only known) with fine short bristles; thorax clothed with scales and without noticeable crests; legs simple; abdomen without crests. Forewing with the costa strongly bowed at base and moderately at apex, the termen with a slight projection at apex and similar projections at veins  $M_1$ ,  $M_3$  and  $Cu_1$ ; vein  $R_3$  from  $R_2$  anastomosing with  $R_4$  to form a small areole; veins  $M_1$ ,  $M_2$ ,  $M_3$  and  $Cu_1$  from the cell, vein  $Cu_2$  from well before the angle of the cell. Hindwing with the termen evenly rounded; veins  $R_s$  and  $M_1$  connate,  $M_2$  from just above the lower angle,  $M_3$  and  $Cu_1$  connate,  $Cu_2$  well before the angle of the cell.

Genotype: *Cymodegma buxtoni* Tams, sp. nov.

#### 47. *Cymodegma buxtoni*, sp. nov. (Plate VI, fig. 17; Plate VII, fig. 6).

♀. Palpus and head (including antennal shaft dorsally) Brussels brown, slightly irrorated with ochraceous buff. Thorax chestnut brown irrorated in



front with cinereous. Abdomen light to warm buff, streaked with ochraceous buff and irrorated with fuscous, with Brussels brown hair-scales at the base. Pectus and underside of abdomen light to ochraceous buff, the legs ochraceous buff strongly shaded dorsally with Brussels brown. Forewing chestnut brown ; a velvety blackish brown spot sub-basally on costa, with a smaller one just below the lower margin of the cell ; a velvety blackish brown antemedial fascia, beginning as a somewhat lunular (concavity basad) mark on the costa, followed by a larger, more or less triangular spot edged basad by a fine cinereous line which curves sharply to run terminad along the edge of the spot above vein  $A_2$ , gradually curving downwards to inner margin ; this antemedial fascia has an outer edging of auburn ; an indistinct lighter spot at end of cell having a centre of the ground-colour, and enclosing some cinereous scales on the discocellulars ; a narrow trilineate postmedial fascia, running very obliquely from costa terminad to about vein  $R_5$ , then turning and running in a direction at right angles to inner margin to just below vein  $Cu_2$ , then returning in a curve to lower angle of cell, curving round and reaching the inner margin at about three-quarters ; a slightly waved subterminal fascia from costa to vein  $M_1$  (thence obsolescent), consisting of a velvety blackish brown shade finely edged with cinereous, and preceded by three fine cinereous dashes on the costa ; a triangular area between end of cell and subterminal fascia with its apex reaching below vein  $Cu_2$ , lighter than the ground colour, approaching auburn, in which colour the obsolescent part of the subterminal fascia is faintly indicated ; traces of cinereous irroration on the veins, and a fine terminal cinereous edging ; fringe chestnut brown. Hindwing warm buff to light ochraceous buff, suffused with fuscous, with a crenulate fuscous postmedial fascia, a similar subterminal fascia between which and the termen the whole area is infusate ; fringe ochraceous orange.

Underside : forewing warm buff to ochraceous buff costally and terminally, with fuscous suffusion in the cell, a fuscous medial shade through end of cell, a double fascia of fuscous suffusion subterminally, and the fringe edged with fuscous ; hindwing warm buff to ochraceous buff irrorated with fuscous, with a fuscous dot at middle of discocellulars, a fuscous postmedial fascia, and a pronounced increase in the fuscous irroration from subterminal area right up to termen.

Expanse : 58 mm.

Holotype ♀. Upolu : Malololelei, 2,000 feet, 13.vii.1924.

48. *Cocytodes coerula* Guenée.

*Cocytodes coerula* Guenée, *Spec. Gén., Noct.*, iii, p. 41, pl. 13, fig. 10, 1852.

*Arcte "caerulea"* Guenée, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.* lxxxv, p. 426, 1910.

*Cocytodes "caerulea"* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 128, 1915.

Samoa. 1 ♂, 1920 (O'Connor).

Upolu : Apia, 2 ♂♂, 3 ♀♀, 20.i., 4.ii.1923, 24.v.1924 (Armstrong) ; 1 ♀, 28.v.1924 ; Malololelei, 3 ♂♂, 1 ♀, 23.ii., 22.iii, 18.vi.1924.

Savaii : 1 ♂, vii.1905 (Rechinger) ; Safune, 1 ♀, 3.v.1924 (Bryan) ; Fagamalo, 1 ♂, v.1925.

49. *Lagoptera miniacea* Felder.

*Lagoptera miniacea* Felder, *Reise Novara, Lep.*, pl. 116, fig. 8, 1874.

*Ophiusa miniacea* Felder and Rogenhofer, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 427, 1910.

*Lagoptera miniacea* Felder, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 128, 1915.

Samoa. 2 specimens (Reincke).

Upolu : Apia, 2 ♂♂, 28.v.1924, 18.vi.1925 ; Malololelei, 2 ♂♂, 23.iv.1922, ii.1923 (Armstrong) ; 1 ♀, 24.ii.1924 ; Malifa, 1 specimen, 29.vii.1905 (Rechinger).

Tutuila : Leone Rd., 1 ♀, 22.iii.1926 (Judd).

50. *Anua coronata* Fabricius.

*Noctua coronata* Fabricius, *Syst. Ent.*, p. 596, 1775.

*Ophiusa "coronata"* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 427, 1910.

*Anua coronata* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 128, 1915.

Samoa. 2 specimens recorded by Rebel in 1910.

Upolu : Apia, 1 ♂, vi.1896 (de la Garde) ; 1 ♀, 3.ii.1922 (Armstrong) ; 1 ♀, v.1925 ; Malifa, 1 specimen, 10.viii.1905 (Rechinger) ; Vailima, 1 ♀, 14.ix.1922 (Armstrong) ; 1 ♀, 22.xii.1924 ; Lalomanu, 1 ♀, x.1924.

Savaii : 1 specimen, 19.viii.1905 (Rechinger) ; Fagamalo, 1 ♂, v.1925 ; Tuasivi, 1 ♀, 20.xi.1922 (Armstrong).

Tutuila : Amauli, 1 ♂, 5.ix.1923 (Swezey and Wilder) ; Pago Pago, 1 ♀, i.1924 (Steffany).

Manua : Ofu, 1 ♂, 27.ii.1926 (Judd) ; Tau, 1 ♂, 21.ii.1926 (Judd).

51. *Anua samoensis*, sp. n.

♂. Palpus inwardly light buff, outwardly fuscous irrorated with pearly grey. Antenna dorsally light buff, ventrally hazel. Head with frons Sanford's brown, vertex and occiput light to warm buff. Thorax warm buff, tinged with ochraceous buff. Abdomen, dorsally and ventrally, orange buff to deep chrome. Pectus ochraceous orange tinged with Sanford's brown, the vestiture behind the eyes of the latter colour. Foreleg with femur warm buff to ochraceous orange, tibia and tarsus fuscous irrorated with pearl grey, the former with a broad fringe outwardly; mid leg similarly coloured, with a prominent fuscous black tuft of hair-scales at the femoro-tibial joint; hind leg warm buff to avellaneous, femur and tibia with long ochraceous orange hair-scales. Forewing cream buff inclining to chamois, with very sparsely and irregularly distributed fuscous irroration in proximal three-quarters; costa edged with ochraceous orange; a very small sub-basal fuscous dot; antemedial fascia barely indicated by fuscous irroration; orbicular a small fuscous dot surrounded by vinaceous cinnamon; reniform well marked, fuscous mixed with vinaceous cinnamon, and resembling (left wing) a figure 3; postmedial fascia barely indicated by two rows of ill-defined interneural dots of fuscous irroration, and reaching neither costa nor inner margin; area from subterminal fascia to termen vinaceous cinnamon, irrorated with pearl grey, the subterminal fascia accentuated by cinnamon and fuscous, with some warm sepia to fuscous black between  $R_4$  and  $R_5$ , and  $R_5$  and  $M_1$ , and a prominent distal edging of pearl grey; fringe ochraceous tawny. Hindwing orange buff to deep chrome. Underside (both wings) orange buff, forewing with faint traces of fuscous shading subterminally between veins  $M_3$  and  $Cu_2$ .

Expanse: 70 mm.

Holotype ♂. Upolu: Malololelei, 2,000 feet, 5.vii.1924.

Later investigations (November, 1934) seem to indicate that this is only an aberration of *Anua tongaensis* Hampson, of which these are so far the only recorded males.

52. *Anua tongaensis* Hampson.

*Anua tongaensis* Hampson, *Cat. Lep. Phal. B. M.*, xii, p. 434, pl. 214, fig. 11, 1913.

Tutuila: 1 ♂, iv.1918 (Kellers); Pago Pago, 3 ♂♂, 14, 23.ix.1923 (Steffany).

53. *Achaea serva* Fabricius.

*Noctua serva* Fabricius, *Syst. Ent.*, p. 593, 1775.

*Ophiusa serva* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 426, 1910.

*Achaea serva* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 128, 1915.

Samoa. 3 specimens (Reincke).

Upolu : Apia, 1 ♂, 1 ♀, 2.ii., 11.xii.1922 (Armstrong) ; 1 ♂, 11.iv.1924, 4 ♀♀, 7, 14.iii., 10.vi., 12.vii.1924.

Tutuila : Pago Pago, 1 ♀, x.1923, 1 ♂, 2 ♀♀, i.1924 (Steffany) ; Leone Rd., 1 ♂, 22.iii.1926 (Judd).

Manua : Ofu, 1 ♀, 27.ii.1926 (Judd).

54. *Achaea janata* Linnaeus.

*Phalaena (Geometra) janata* Linnaeus, *Syst. Nat.*, ed. 10, p. 527, 1758.

*Ophiusa "melicerte"* Drury, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 426, 1920, recte *melicerta*.

*Achaea janata* Linnaeus, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 128, 149, 1915.

Samoa. 4 large specimens caught by Friederichs recorded by Rebel in 1915.

Upolu : Apia, 1 ♀, v.1896 (de la Garde) ; 1 large specimen (Friederichs) ; Malifa, 6 specimens, 23.vi., 6.viii.1905 (Rechinger).

Savaii : 1 specimen, vii.1905 (Rechinger).

Tutuila : Pago Pago, 1 ♀, x.1923 (Steffany).

55. *Achaea fulminans* Rebel.

*Achaea fulminans* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 128, pl. 1, fig. 5, 1915.

Upolu : Apia, 1 ♂, 1 ♀ (Friederichs) ; 1 ♂, 4.iii.1923 (Armstrong) ; Malolo-lelei, 1 ♀, vii.1925 (Wilder) ; 4 ♂♂, 11 ♀♀, 22, 24.ii., iv., 5, 6, 7.vii., 18.viii.1924, 21.iv.1925 ; Aleipata, 1 ♂, iv-v.1924 ; Lalomanu, 2 ♂♂, 1 ♀, x.1924.

Tutuila : Pago Pago, 2 ♂♂, i., ii.1924 (Steffany).

56. *Parallelia prisca* Walker.

*Ophisma prisca* Walker, *List Lep. Ins. B. M.*, xiv, p. 1385, 1858.

*Ophisma anetica* Felder and Rogenhofer, *Reise Novara, Zool.*, ii, Lep. Het., p. 14, pl. 116, f. 11, 1873.

*Parallelia prisca* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 129, 1915.

*Parallelia prisca* ab. *vavauensis* Strand, *Arch. f. Naturgesch.*, lxxix, A, Heft 8, p. 76, 1914.

*Ophiusa illibata* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv., p. 426, 1910 (non Fabricius).

*Parallelia illibata* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 129, 1915 (non Fabricius).

As I was not satisfied that *P. illibata* occurred in Samoa, and at the same time felt sure that the species concerned was really *P. prisca*, I wrote to Dr. Rebel for the specimen recorded by him as having been taken at Malifa by Rechinger. He very kindly sent this specimen, and I am now able to give the above synonymy.

Navigators' Islands (presented to the British Museum by the Duke of Northumberland in 1838). This specimen is Walker's type of *P. prisca*.

Upolu : Apia, 1 ♀ (Friederichs) ; 2 ♀♀, 18.v.1922, 20.iii.1923 (Armstrong) ; 1 ♂, 22.ii.1924 ; Malololelei, 1 ♀, 18.viii.1924 ; Malifa, 1 ♂, 10.viii.1905 (Rechinger).

57. *Parallelia vitiensis* Butler.

*Ophiusa vitiensis* Butler, *Trans. Ent. Soc. Lond.*, 1886, p. 414.

*Parallelia vitiensis* Butler, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 149, 1915.

Samoa. 1 ♀ (Friederichs).

Upolu : Apia, 1 ♀, 24.viii.1925.

58. *Chalciope-cephise* Cramer.

*Phalaena Noctua ? cephise* Cramer, *Uitl. Kapellen*, iii (19), p. 59 and index, pl. 227, fig. C, 1779.

*Chalciope cephise* Cramer, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 129, 1915.

*Chalciope cephise* Cramer, Hampson, *Cat. Lep. Phal. B. M.*, xiii, p. 30, fig. 6, 1913.

Upolu : Apia, 1 ♂, 1.xi.1922 (Armstrong) ; 1 ♀, 10.v.1924.

Tutuila : 1 ♂, 1 ♀ (Nicoll) ; Pago Pago, 1 ♂, x.1923, 2 ♂♂, 1 ♀, i., ii.1924 (Steffany).



59. *Euclidisema alcyona* Druce.

*Grammodes alcyona* Druce, *Proc. Zool. Soc. Lond.*, 1888, p. 225, pl. 13, fig. 5.

*Grammodes alcyona* Druce, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 427, 1910.

*Euclidisema alcyona* Druce, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915.

Samoa. One old specimen in the Hamburg Natural History Museum recorded by Rebel; 2 ♀♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 1 ♀, 1.v.1922 (Armstrong); Malifa, 3 specimens, 10.vi., 29.vii., 6.viii.1905 (Rechinger).

Tutuila: Pago Pago, 5 ♀♀, 14.ix., x.1923, i., ii.1924 (Steffany).

60. *Mocis frugalis* Fabricius.

*Noctua frugalis* Fabricius, *Syst. Ent.*, p. 601, 1775.

*Remigia frugalis* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 427, 1910.

*Mocis frugalis* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915.

Upolu: Apia, 1 ♂, 18.v.1922 (Armstrong); Malololelei, 3 ♂♂, 2 ♀♀, vii., 11.vii.1925 (Wilder); 3 ♂♂, 6 ♀♀, 14, 24.ii., 30.iv., 1, 18, 21, 28.vi., 13.vii., ix.1924; Leulumoega, 1 ♂, 14.ix.1923 (Swezey and Wilder); Malifa, 1 ♂, 18.vi. 1905 (Rechinger)

Savaii: Safune, 2 ♂♂, 1 ♀, 1, 4.v.1924 (Bryan); Tuasivi, 1 ♂, 8.ii.1924.

Tutuila: Pago Pago, 4 ♂♂, x.1923, i., ii.1924 (Steffany); 1 ♀, 10.ix.1923 (Swezey and Wilder); Amauli, 1 ♀, 6.ix.1923 (Swezey).

Manua: Tau, 1 ♀, 20.ii.1926 (Judd).

61. *Mocis trifasciata* Stephens.

*Catephia trifasciata* Stephens, *Ill. Brit. Ent., Haust.*, iii, p. 128, 1830.

*Remigia demonstrans* Walker, *List Lep. Ins. B. M.*, xiv, p. 1512, 1858.

*Remigia archesia* Cramer, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 427, 1910 (non Stoll in Cramer).

*Mocis trifasciata* Stephens, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915.

Navigators' Islands (presented to the British Museum by the Duke of Northumberland in 1838): 2 ♂♂, including the type of *Remigia demonstrans* Walker.

Samoa. 1 ♂ in Hamburg Museum labelled "Samoa, Dr. Reincke leg."

Upolu : Apia, 2 ♂♂, 3 ♀♀, 18.v., 26.vi., 31.xi.1922, 19.iii.1923 (Armstrong) ; 14.ix.1924 ; Lalomanu, 2 ♂♂, 3 ♀♀, ix., 14.xi.1924 ; Aleipata, 2 ♂♂, 6.iv., iv.-v. 1924 ; Malifa, Motootua and Mulinuu, 6 specimens (♂♂, ♀♀), 24.v.-23.viii.1905 (Rechinger).

Savaii : Safune, 1 ♂, 1 ♀, 1, 4.v.1924 (Bryan) ; Tuasivi, 1 ♀, xi.1925.

Tutuila : 1 ♀ (Nicoll); 1 ♀, iv.1918 (Kellers) ; Pago Pago, 8 ♂♂, 7 ♀♀, 6.ix. (Swezey and Wilder), x.1923, i., ii (Steffany), 12.iv.1924 (Bryan) ; 4.xi.1925.

Manua : Ofu : 3 ♀♀, 27.ii.1926 (Judd) ; Tau, 2 ♀♀, 20.ii.1926 (Judd).

PLUSIINAE

62. *Plusia chalcites* Esper.

*Noctua chalcites* Esper, *Die Schmett.*, iv, p. 447, pl. 141, fig. 3, 1789.

*Plusia "chalcites"* Esper, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915.

Upolu : Apia, 3 ♂♂, 4 ♀♀, 13.xi.1921, 24.vii., 13.ix. (Armstrong), 9.ii., 11.v., 1.ix.1924, ix.1925 ; Malololelei, 1 ♂, 20.v.1922 (Armstrong).

Savaii : Safune, 1 ♀, 1.v.1924 (Bryan).

Tutuila : Pago Pago, 1 ♂, 3 ♀♀, 14.ix., x.1923, i.1924. (Steffany).

One label bears a statement : "Cucumber pest."

OPHIDERINAE.

63. *Felinia filipalpis* Walker.

*Ansa filipalpis* Walker, *List Lep. Ins. B. M.*, xv, p. 1731, 1858.

*Erygansa kebea* Bethune-Baker, *Nov. Zool.*, xiii, p. 246, 1906.

Tutuila : Pago Pago, 1 ♂, x.1923 (Steffany).

64. *Catephia acronyctoides* Guenée.

*Catephia acronyctoides* Guenée, *Spec. Gén., Noct.*, iii, p. 47, 1852.

*Catephia acronyctoides* Guenée, Rebel in Galvagni, *Verh. zool.-bot. Ges. Wien*, lxii, p. (121), 1912.

*Catephia acronyctoides* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915.

Upolu : 1 ♂, xii.1910 (Prowazek), recorded by Galvagni.

This species is not represented in the collections before me.

65. *Catephia sericea* Butler.

*Anophia sericea* Butler, *Ann. Mag. Nat. Hist.* (5), x, p. 230, 1882.

Upolu : Apia, 5 ♀♀, 18, 20.v.1922 (Armstrong), ix., 17.xi.1924, vii.1925.

Tutuila : Pago Pago, 4 ♂♂, 5 ♀♀, 14.ix.1923, x.1923, i.1924 (Steffany) ;  
Leone Rd., 2 ♀♀, 22.iii.1926 (Judd).

Manua : Ofu, 1 ♀, 21.ii.1926 (Judd).

66. *Nagia homotima*, sp. n. (Plate VIII, fig. 3).

♀. Palpus fuscous, sparsely irrorated with white ; antenna fuscous ; head fuscous, irrorated with white ; thorax fuscous, glossy, changing with changing light through varying shades of blue and violet, the tegula with some auburn scales at centre ; abdomen fuscous, the crests similar to thorax in having the cupreous gloss ; pectus hair brown streaked with white ; legs fuscous, hair brown and white mixed ; venter hair brown to fuscous mixed with white. Forewing argus brown to auburn ; sub-basal fascia velvety clove brown to fuscous black from costa to middle of wing, remainder hidden by a patch of fuscous scales with cupreous gloss ; an irregular velvety clove brown to fuscous black antemedial fascia, inwardly oblique from costa to lower margin of cell, sharply out-curved from cell to vein  $A_2$ , slightly bowed between costa and inner margin (in both cases concavity basad) ; orbicular a clove brown dot ; a clove brown to fuscous black crenate medial fascia, slightly bowed (concavity basad) ; reniform outlined with argus brown, with a few clove brown scales intermixed ; postmedial fascia velvety clove brown to fuscous black, sinuous and sharply oblique tornad from costa to vein  $M_3$ , dentate at  $M_3$  and  $Cu_1$ , looping back to lower angle of cell (loop in this example closed, but possibly not always so), then a sharp narrow indentation basad along  $Cu_2$ , thence oblique inwards to vein  $A_2$ , then sharply oblique outwards to near inner margin, angling to oblique inwards to inner margin ; an irregularly sinuate-undulate subterminal fascia, light ochraceous buff at costa becoming gradually darker and approaching the ground-colour towards inner margin, succeeded by a diffuse clove brown spot, between veins  $R_5$  and  $M_1$ , and a similarly coloured dash to termen between veins  $M_2$  and  $M_3$  ; some white irroration near apex ; a series of clove brown terminal lunules ; fringe fuscous black ; area between antemedial and post-medial fasciae suffused with tea green, this colour extending out in a trilobate

patch in the region of veins  $M_2$  and  $Cu_2$  to the subterminal fascia ; some light ochraceous buff on the costa before and after the fasciae ; a patch of fuscous black below vein  $Cu_2$  between postmedial and subterminal fasciae. Hindwing fuscous black, with a white fascia before the middle narrowing to a point just below the cubital veins, with a trace of white between that point and the inner margin ; apex white ; two small white spots towards termen on veins  $Cu_1$  and  $Cu_2$ , that on the latter larger ; inner margin hair brown. Underside of forewing proximally hair brown, a white medial fascia, distally fuscous black, with white irroration before termen, the veins distally white except just before termen, where the white is cut by the crenate terminal line ; underside of hindwing similar, but with some fuscous black at end of cell before broader white medial fascia ; hardly any white irroration, apex white.

Expanse : 57 mm.

Holotype ♀. Upolu : Malololelei, 2,000 feet, 22.iii.1925.

Paratype ♀. Upolu : Apia, 18.ix.1922 (Armstrong).

The paratype ♀ is worn, and was in my opinion unsuitable for a type specimen, though it lacks the large patch of tea green on the forewing, a feature which I think must be abnormal. These two females bear some resemblance in pattern to *N. hieratica* Hampson, the type of which is a Marshall Is. ♂, and of which there is a Gilbert Is. ♀ in the British Museum collection. No Marshall Is. ♀ is known, but it is possible that when more material comes to hand the species described above may prove to be *N. hieratica*.

### 67. *Ericeia inangulata* Guenée.

*Hulodes inangulata* Guenée, *Spec. Gén., Noct.*, iii, p. 210, 1852.

*Polydesma inangulata* Guenée, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 426, 1910.

*Polydesma inangulata* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915.

Upolu : Apia, 1 ♂, 29.iii.1922 (Armstrong) ; 2 ♂♂, 2 ♀♀, 17, 28.i.1924, 18.iii., v.1925 ; Malololelei, 1 ♂, 1 ♀, 18.viii.1924 ; Malifa and Motootua : 17 specimens, v.-vi.1905 (Rechinger).

Tutuila : Pago Pago, 2 ♂♂, 1 ♀, i.1924 (Steffany).

68. *Ericeia leichardtii* Koch.

*Villosa leichardtii* Koch, *Indo-Austral. Lepidopteren-Fauna*, p. 108, pl. 1, 1865.

Upolu : Apia, 1 ♀, 31.iv.1924 ; Malololelei, 1 ♀, ii.1923 (Armstrong) ;  
4 ♀♀, 25.iv., 6.vii., 18.viii.1924.

Tutuila : Pago Pago, 1 ♀, i.1924 (Steffany).

69. *Serrodos partita* Fabricius.

*Noctua partita* Fabricius, *Syst. Ent.*, p. 604, 1775.

*Phalaena Noctua inara* Cramer, *Uitl. Kapellen*, iii (20), p. 78 and index, pl. 239, fig. E, 1779.

*Serrodos inara* Cramer, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 427, 1910.

Samoa. One specimen in the Hamburg Museum collected by Dr. Reincke.

Upolu : Malifa, 1 ♀, 9.viii.1905 (Rechinger).

This species is not represented in the collections available for study. The above two records are taken from Dr. Rebel's paper.

70. *Serrodos campana callipepla* Prout.

*Serrodos callipepla* Prout, *Ann. Mag. Nat. Hist.* (10), iii, p. 598, 1929.

Upolu : Apia, 1 ♂, ix.1924 ; Malololelei, 1 ♂, 18.viii.1924.

Tutuila : Pago Pago, 1 ♂, 8.ix.1923 (Swezey and Wilder) ; 1 ♀, 21.ix.1923 (Steffany).

Manua : Ofu, 1 ♀, 27.ii.1926 (Judd).

*Serrodos campana* Guenée (*Spec. Gén., Noct.*, iii, p. 252, pl. 22, fig. 6, 1852), needs much more thorough investigation than has been possible during the working out of this collection. Miss Prout described *Serrodos callipepla* on the basis of two Fijian specimens, but I feel reasonably certain that it is the geographical representative of *S. campana* in Fiji and Samoa, and prefer to record it in that way.

71. *Hypocala guttiventris* Walker.

*Hypocala guttiventris* Walker, *List Lep. Ins. B. M.*, xiii., p. 1176, 1857.

*Hypocala guttiventris* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915.

Rebel records a ♂ labelled "Samoa," collected by Herrn Julius Henniger. The collections before me contain no representatives of this Australian species.



72. *Hypocala australiae* Butler.

*Hypocala australiae* Butler, *Ann. Mag. Nat. Hist.* (6), x, p. 21, 1892.

Tutuila : Leone Rd., 1 ♀, 22.iii.1926 (Judd).

Manua : Ofu, 2 ♂♂, 2 ♀♀, 27.iii.1926 (Judd) ; Tau, 2 ♀♀, 20, 23.ii.1926 (Judd).

I have been unable to spend the amount of time required to make a comparative study of the species in the genus *Hypocala*, but I have failed to find any constant characters on which to separate the Samoan specimens from the Australian. The upper and under sides of the hindwing of a Samoan and an Australian specimen of *Hypocala australiae* are figured for comparison. Slight differences do exist, but further study is needed on a larger series of each species before consistent differences can be substantiated. The genus is worthy of a detailed investigation from a zoogeographical point of view.

73. *Rivula polynesiana* Hampson ? (Plate XVIII, fig. 10).

*Rivula polynesiana* Hampson, *Descr. New Gen. Spec. Noctuidae B. M.*, p. 256, 1926.

Tutuila : Pago Pago, 1 ♀, v. 1896 (de la Garde).

This specimen was associated with the type of *R. polynesiana* by Hampson, but in spite of the fact that it is crippled, I believe it represents a hitherto undescribed species.

74. *Rivula dipterygosoma*, sp. nov. (Plate VI, fig. 13 ; Plate VII, fig. 7 ; Plate XII, fig. 2).

♂. Palpus, antenna, head, thorax, pectus, abdomen and legs light buff, faintly tinged with warm sepia, the abdomen with some fuscous irroration and with two minute downwardly directed tufts of black scales at about two thirds. Forewing light buff, faintly tinged with warm sepia, except for a strip below costa ; costa edged, but not continuously, with warm sepia ; two sharply oblique warm sepia to blackish brown antemedial dots below the cell ; a small dot or streak at upper angle of cell, and a larger, rounded, conspicuous spot at lower angle ; a sharply oblique, curved (convexity tornad) row of warm sepia to blackish brown interneural dots from below apex to inner margin at two-thirds ; a terminal

series of blackish brown, interneural dots; fringe faintly tinged with warm sepia. Hindwing cartridge buff, fringe faintly tinged with warm sepia. Underside light buff, forewing shaded in proximal half with fuscous, hindwing with sparse fuscous irroration, denser at discocellulars, obsolescent towards inner margin. Expanse 20 mm.

Holotype ♂. Upolu : Malololelei, 21.vi.1924.

### 75. *Othreis fullonia* Clerck.

[*Phalaena*] *fullonia* Clerck, *Icones*, ii, pl. 48, 1764.

*Ophideres fullonica* Linnaeus, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 428, 1910.

*Ophideres fullonica* Linnaeus, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915.

Samoa. 1 ♂, 1 ♀, labelled "Samoa, Dr. Reincke leg," recorded by Rebel in 1910.

2 ♀♀, labelled "Navigators' Islands," in British Museum collection.

Upolu : Apia, 4 ♂♂, 6 ♀♀, 1.ii.1922, 27.ii.1923 (Armstrong); larva ex *Erythrina*, 12.ix.1923, moth emerged 30.ix.1923 (Swezey); 31.vii., 19, 21, 26.viii., viii., 20.ix., ix.1924.

Tutuila : Pago Pago, 1 ♀, x.1923 (Steffany); Amauli, 2 ♂♂, ex *Erythrina*, 5.ix.1923 (Swezey and Wilder).

It is perhaps unfortunate that Clerck spelt the trivial name "fullonia," but as his reference is earlier I adhere to his spelling. He has provided a name, and I regard that as sufficient.

Professor Buxton sends me the following note :—"Larvae on leaves of *Erythrina*. A Ceratopogonine midge (*Forcipomyia hirtipes* de Meijere) was found sucking blood from them. See Edwards, *Insects of Samoa*, vi, p. 48. The habit is well known in this species."

### 76. *Eumaenas salaminia* Cramer.

*Phalaena Noctua salaminia* Cramer, *Uitl. Kapellen.*, ii (15), p. 117 and index, pl. 174, fig. A, 1779.

*Ophideres salaminia* Fabricius, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 428, 1910.

*Ophideres salaminia* Fabricius, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915.

Samoa. One specimen in the Hamburg Museum labelled "Samoa, Dr. Reincke leg.", recorded by Rebel.

Upolu : Apia, 1 ♂, ix.1924; Malololelei, 1 ♂, vii.1925 (Wilder).

77. *Cosmophila flava flava* Fabricius.

*Noctua flava* Fabricius, *Syst. Ent.*, p. 601, 1775.

*Cosmophila flava flava* Fabricius, Tams, *Trans. Ent. Soc. Lond.*, 1924, p. 21, pl. 1, fig. 1, pl. 2, fig. 3, pl. 3, fig. 6.

Samoa. 1 ♀, iii.–viii.1921 (O'Connor).

Upolu : Apia, 1 ♀, 18.ix.1925.

Tutuila : Pago Pago, 1 ♂, 1 ♀, i., ii.1924 (Steffany).

78. *Cosmophila auragoides lyona* Swinhoe.

*Cosmophila auragoides* Guenée, *Spec. Gén., Noct.*, ii, p. 397, 1852.

*Cosmophila auragoides* Guenée, Tams, *Trans. Ent. Soc. Lond.*, 1924, p. 21, pl. 1, fig. 5, pl. 2, fig. 2, pl. 3, fig. 5.

*Cosmophila lyona* Swinhoe, *Ann. Mag. Nat. Hist.* (9), iii, p. 311, pl. 10, fig. 5, 1919.

*Cosmophila lyona* Swinhoe, Tams, *Trans. Ent. Soc. Lond.*, 1924, p. 22, pl. 1, fig. 4, pl. 2, fig. 1, pl. 3, fig. 4.

*Cosmophila erosa* Hübner, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 150, 1915, non Hübner.

Samoa. 1 ♀ (Friederichs), recorded wrongly as *C. erosa* by Rebel in 1915.

Upolu : Malololelei, 1 ♀, 22.vi.1924 (Armstrong).

There have been several attempts (Butler, Hampson, Swinhoe, Tams) to clear up the identity of the various moths which for convenience I group in the genus *Cosmophila*. The whole classification of this genus and its associates (*Anomis*, etc.) requires revision.

With regard to the subspecific relationships, I do not feel justified in introducing *C. erosa* Hübner into the *auragoides*—*lyona* association, though I propose to go a step further than I did in 1924, and associate together *C. auragoides auragoides* (Tropical Africa and Madagascar) and *C. auragoides lyona* (Indo-Australian region). The figures in my 1924 paper show the rather wide divergence of *C. erosa* Hübner from the others.

79. *Rusicada nigratarsis xanthochroa* Butler (Plate IX, fig. 2, cf. fig. 1).

*Rusicada nigratarsis* Walker, *List Lep. Ins. B. M.*, xiii, p. 1006, 1857.

*Gonitis xanthochroa* Butler, *Trans. Ent. Soc. Lond.*, 1886, p. 409.

Upolu : Apia, 1 ♀, 15.ix.1923 (Swezey and Wilder) ; 4 ♀♀, 7.v.1924, 30.iv., vi., 24.viii.1925 ; Malololelei, 1 ♀, 5.vi.1924 ; Aleipata, 1 ♀, 10.iv.1924.

80. *Rusicada vulpina* Butler.

*Gonitis vulpina* Butler, *Trans. Ent. Soc. Lond.*, 1886, p. 408.

*Gonitis fulvida* Guenée, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 425, 1910 (non Guenée.)

*Gonitis vulpina* Butler, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 130, 1915 (without certainty, W. H. T. T.).

These records may refer to *R. nigratarsis xanthochroa* Butler, but as the type of *R. vulpina* is a Fijian specimen, from what I know of these moths I think it possible that Rebel may have had before him an example of *R. vulpina*, and I therefore include the record here.

81. *Tiridata samoana* Butler (Plate VIII, figs. 4, 5).

*Gonitis samoana* Butler, *Trans. Ent. Soc. Lond.*, 1886, p. 407.

Samoa. 1 ♂ (Butler's type).

Tutuila: Pago Pago, 1 ♂, ii.1924 (Steffany), 1 ♀, 12.viii.1925.

This species is apparently quite distinct from *T. vitiensis* Butler, but the material from Samoa is too scanty to make a proper investigation possible.

82. *Hypospila similis*, sp. n. (Plate VI, fig. 18).

♂. Palpus sepia, the third segment streaked with white and tipped with light buff. Antenna, head, thorax and abdomen dorsally sepia. Pectus sepia mixed with warm buff and white giving it a warm greyish speckled appearance. Legs sepia, the femora irrorated with white and fringed with mixed sepia and white hairs, the tibiae with very little white irroration, the tarsal segments warm buff at each end and ventrally. Underside of abdomen light to warm buff irrorated with sepia. Forewing sepia, with a raisin-black suffusion over the disc in oblique light, the markings in rich velvety sepia contrasted with vinaceous brown; an oblique, bowed, crenate (concavities basad) antemedial fascia; a spot in middle of cell; a medial shade, bowed across end of cell (concavity basad), broadening towards anal vein ( $A_2$ ), between which and inner margin it forms a heavy velvety sepia spot almost filling the space between the antemedial and postmedial fascia; some white scales on discocellulars; postmedial fascia apparently merging with medial shade from costa to lower angle of cell, whence it is crenate (concavities terminad); an almost straight, very slightly waved oblique subterminal fascia; some vinaceous brown contrast on costa after the postmedial and before the subterminal, with much more on the inner margin



throwing up strongly the velvety sepia markings. Hindwing much shorter than forewing, rounded, the markings similar, though more cramped, the subterminal almost straight and crossing wing halfway between cell-end and termen.

Underside: forewing with a ground-colour of light buff, almost entirely suffused with sepia with faint traces of upperside markings; spot in middle of cell, white scales on sepia spot on discocellulars; hindwing with the markings more contrasted; a strong postmedial fascia, followed by a light strip of the ground-colour, then a subterminal fascia divided from the general subterminal sepia suffusion by a narrow strip of the ground-colour.

Expanse: 42 mm. (40 mm. from tip to tip, hindwings 27 mm. from tip to tip).

Holotype ♂. Upolu: Malololelei, 2,000 feet, 24.ii.1924.

Paratypes. Savaii: Safune (lowlands to 1,000 feet), 1 ♂, 1.v.1924 (Bryan).

Tutuila: Pago Pago, 1 ♂, i.1924 (Steffany).

### 83. *Anticarsia irrorata* Fabricius.

*Noctua irrorata* Fabricius, *Spec. Ins.*, ii, *Appendix*, p. 506, 1781; *Ent. Syst.*, iii, 2, p. 21, 1794.

*Ophiusa rubricans* Boisduval, *Faun. Ent. Madag.* (7), p. 106; pl. 16, fig. 1, 1833; *N. Ann. Mus.*

*Hist. Nat. (Paris)*, ii [2], p. 254, 3rd. qtr. 1833.

*Thermesia rubricans* Boisduval, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 428, 1910.

*Thermesia rubricans* Boisduval, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915.

Samoa. 1 ♂, 1 ♀, labelled "Navigators' Islands," in British Museum collection.

Upolu: Apia, 1 ♂, 1 ♀, 23.iii.1924, 18.v.1922 (Armstrong); 1 ♀, 31.v.1924; Vaimea, 1 ♂, 7.vi.1905 (Rechinger); Vailima, 1 ♀, 1.ii.1925; Fagalii, 1 ♂, 19.vii.1924.

Nuutele: 1 ♀, 8.iv.1924.

Tutuila: Pago Pago, 3 ♂♂, 11 ♀♀, x.1923, i., ii.1924 (Steffany); 1 ♀, 12.iv.1924 (Bryan); 1 ♀, 14.xii.1925.

### 84. *Lacera alope* Stoll.

*Phal [aena] alope* Stoll in Cramer, *Uitl. Kapellen*, iii (24), p. 168 and index, pl. 286, figs. E, F, 1780.

Upolu: Vailima, 1 ♀, 19.ix.1922 (Armstrong).



85. *Leptotroga armstrongi*, sp. n. (Plate VIII, figs. 8, 9).

♂. Palpus liver brown, with a small admixture of mahogany red and sepia, and a few light buff scales. Antennal shaft with warm buff scaling, tinged at base with chestnut. Head liver brown in front, to warm buff behind. Thorax warm buff mixed with liver brown in front. Tergum sepia, tinged with liver brown at base. Pectus warm buff, mahogany red in front. Venter warm buff, irrorated with mahogany red. Legs warm buff, foreleg shaded with liver brown and sepia, mid and hind legs with mahogany red and sepia, the tarsal segments sepia tipped distally with warm buff. Forewing liver brown mottled with mahogany red to orange rufous; a light buff dot in middle of cell, representing an orbicular stigma; reniform stigma with upper third outlined with cartridge buff, rest outlined with orange rufous; a liver brown medial shade from reniform to middle of inner margin; a liver brown spot just above anal vein and just before postmedial fascia; postmedial fascia liver brown, bowed (concavity basad), with light buff dash on costa and dots on veins; an obscure sepia subterminal fascia, sometimes accentuated with light buff or ochraceous orange, bowed between costa and vein  $M_3$ , and again between vein  $M_3$  and inner margin (concavities terminad); fringe liver brown mixed with mahogany red. Hindwing similarly coloured, but with a fuscous black dot at end of cell, a postmedial series of fuscous black dots edged distally with light buff, and a subterminal fascia parallel with termen. Underside light to warm buff irrorated with sepia and suffused with ochre-red; both wings with a sepia spot at end of cell, and narrow sepia postmedial and subterminal fasciae, and with a pre-terminal series of interneural sepia dots. Expanse 40 mm.

♀. Similar. Expanse 42 mm. The allotype ♀ has a broad fascia of light buff, irrorated with liver brown, 3 mm. wide at wing-base running along costa and gradually tapering towards apex, which it does not quite reach; the ground-colour is more uniformly mahogany red.

Holotype ♂. Upolu: Malololelei, 24.ii.1924.

Allotype ♀. Upolu: Malololelei, 2,000 feet, 14.vi.1924.

Paratype ♂. Samoa. 1920 (O'Connor).

Paratype ♀. Upolu: Siumu, 24.xi.1923 (Armstrong).

86. *Oxyodes ochreata samoana*, subsp. nov.

(Plate IX, figs. 4, 6 ; Cf. figs. 3, 5, 7-9).

♂. ♀. Differs from *O. ochreata ochreata* in having the fuscous or warm sepia to fuscous black markings more sharply picked out from a deep chrome ground, whereas in *O. ochreata ochreata* the dark markings are more diffuse, on a duller ground of orange buff. There are noticeable differences in both ♂ and ♀ genitalia, the uncus in the ♂ of *O. o. samoana* lacking the "swan's head" appearance seen in the uncus of the typical subspecies.

Holotype ♂. Tutuila : Pago Pago, i.1924 (Steffany).

Allotype ♀. Savaii : Safune, 4.v.1924 (Bryan).

Paratype ♂. Tutuila : Pago Pago, 23.ix.1923 (Steffany).

I have come to the conclusion that the moth described by Lord Rothschild (*Oxyodes scrobiculata ochreata* Rothschild, *B. O. U. and Woll. Exped. Snow Mts. S. Dutch New Guinea, Lep.*, p. 61, 1915) is a distinct species, of which the material here under study represents the Samoan geographical race. For the purposes of properly placing these Samoan specimens I have made an extended study of the three species of *Oxyodes*, but we still need more material in order to be sure of the distribution of the various races. There are few more interesting genera than *Oxyodes* from the point of view of the geographical distribution of its species. Plate IX, fig. 8, shows the eighth ventrite of the female of the Fijian subspecies, which I propose to call *Oxyodes ochreata tanymekes* subsp. n., characterised by the elongate eighth ventrite.

## HYPENINAE.

87. *Catada charalis* Swinhoe (Plate XII, fig. 9).

*Catada charalis* Swinhoe, *Ann. Mag. Nat. Hist.* (7), vi, p. 311, 1900.

Upolu : Apia, 1 ♀, 29.iii.1922 (Armstrong) ; Malololelei, 18 ♂♂, 7 ♀♀, 14-18.vi.1924.

*Machaeropalpus*, gen. nov.

Diameter of eye, 1 mm., palpus porrect, extending 4 mm. beyond anterior eye-margin ; second segment about 4.5 mm. long, broadly expanded dorsally with scales into a tripleural blade ; the third segment obliquely upturned,

appearing to arise before the distal extremity of the second segment, and with a dorsal (or posterior) expansion of scales on the distal half ; frons simple, with a pointed tuft of scales ; antenna (♀ only) annulate, with fine, short bristles. Forewing with veins  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$  stalked, the latter shortly,  $M_1$  from near upper angle of cell,  $M_2$  from near lower angle,  $M_3$  from lower angle,  $Cu_1$  from before lower angle,  $Cu_2$  from cell at about three-quarters ; hindwing with veins  $R_s$  and  $M_1$  connate,  $M_2$  from near lower angle of cell, slightly divergent from  $M_3$ , which is very shortly stalked with  $Cu_1$ , vein  $Cu_2$  from cell just beyond the middle.

Genotype : *Machaeropalpus fasciatus* Tams, sp. nov.

88. *Machaeropalpus fasciatus*, sp. nov. (Plate VI, fig. 19 ; Plate VII, fig. 9).

♀. Palpus cinnamon brown, second segment shaded with deep brownish drab, the dorsal scales deep brownish drab, the third segment streaked in front proximally, and tipped with warm buff, the dorsal (or posterior) scales deep brownish drab. Head and thorax cinnamon brown, tegula shaded posteriorly with deep brownish drab. Abdomen light to warm buff, shaded with mummy brown. Pectus and legs cinnamon brown to mummy brown with traces of warm buff. Underside of abdomen strongly suffused with mummy brown. Forewing hazel suffused with bay ; traces of an indistinct, fine velvety warm blackish brown antemedial fascia, bowed, crenulate (concavities basad) ; some light buff scales at end of cell ; a slightly curved, slightly oblique velvety bay medial shade, sharply defined basad, diffuse terminad ; a fine warm blackish brown dentate postmedial fascia, slightly bowed below costa and again at veins  $M_2$  to  $Cu_1$  (concavity basad) ; an obscure subterminal fascia, commencing before a warm blackish brown apical patch, below which it runs parallel with the postmedial fascia to inner margin just before tornus, accentuated interneurally with light buff scales, which take the form of two small sagittate marks (points basad) outlined with warm blackish brown, between veins  $R_5$  and  $M_1$  ; a terminal series of interneural warm blackish brown lunules ; fringe cinnamon brown. Hindwing light to warm buff, the distal half suffused with mummy brown to fuscous, commencing with a medial shade, succeeded by a fine, fuscous black, slightly dentate postmedial fascia, and a subterminal fascia, also weakly dentate, but light buff edged on both sides with fuscous black ; a terminal series of fuscous black lunules interneurally ; fringe infusate, with warm buff line at

base. Underside : forewing pale to warm buff, strongly suffused with greyish olive to fuscous with a tinge of bay ; a buff discocellular lunule edged on both sides with fuscous black ; postmedial fascia indicated in fuscous black with a spot opposite the end of the cell ; apical patch and beginning of subterminal fascia as on upper side ; fringe infusate ; hindwing similar, but with a pronounced blackish brown triangular discocellular spot, succeeded by a smaller spot in the postmedial fascia, and an accentuation in the subterminal fascia ; the fasciae all fairly distinctly indicated ; fringe infusate. Expanse 36 mm.

Holotype ♀. Upolu : Malololelei, 2,000 feet, 6.vii.1924.

### Mormecia, gen. nov.

Proboscis fully developed ; palpus upcurved, the second segment long, curved and reaching level of vertex of head, the third segment half as long as second, almost straight, acuminate, and directed obliquely backwards over the head ; frons smoothly scaled, with hardly any tufting above ; antenna of ♂ with stout scape, the shaft with proximal third incrassate, with a pronounced kink before the distal two-thirds, and furnished with fine short bristles and cilia, of ♀ simply furnished with fine short bristles and cilia ; in ♂ femora and tibiae fringed with long hair-scales ; in ♀ the mid and hind tibiae only with the proximal third fringed above with short hair-scales ; abdomen without crests. Forewing in ♂ with the costa almost straight from base to apex, but slightly bowed in the proximal third ; in ♀ less straight but without the proximal bow ; veins  $R_2$ ,  $R_3$ ,  $R_4$  stalked, arising before upper angle of cell,  $R_5$  from upper angle,  $M_1$  from near upper angle,  $M_2$  and  $M_3$  arising close together from lower angle of cell,  $Cu_1$  from before lower angle,  $Cu_2$  from cell beyond two-thirds. Hindwing with vein  $R_s$  arising just before upper angle of cell, at which  $M_1$  arises,  $M_2$  from close to lower angle,  $M_3$  and  $Cu_1$  from lower angle,  $Cu_2$  from cell at two-thirds.

Genotype : *Mormecia lachnogyia* Tams, sp. nov.

### 89. *Mormecia lachnogyia*, sp. nov. (Plate VI, fig. 20 ; Plate VII, fig. 8).

♂. Palpus brownish olive, with some light buff on inner side of second segment proximally ; antenna brownish olive ; head brownish olive ; thorax brownish drab ; abdomen brownish olive ; pectus warm buff ; legs brownish olive, heavily tufted, the foreleg with a large spreading tuft of warm buff scales and hair-scales ; underside of abdomen brownish olive streaked with olive buff.



Forewing deep brownish drab, sparsely irrorated with pale drab grey ; an obscure, sinuous, fuscous antemedial fascia commencing at upper margin of cell ; a similar postmedial fascia, longer and more sinuous ; a similar subterminal fascia, hardly sinuous, and within it a row of pale drab grey spots on the veins. Hindwing light buff almost entirely suffused with fuscous, less so along costa. Under-side of both wings light buff entirely suffused with fuscous, the hindwing less densely so. Expanse 44 mm.

Holotype ♂. Samoa. 1920 (O'Connor).

Allotype ♀. Upolu : Malololelei, 24.ii.1924.

#### 90. *Simplicia lautokiensis* Prout (Plate XII, figs. 12, 13).

*Simplicia lautokiensis* Prout, *Stylops*, ii, p. 85, 1933.

*Simplicia (Libisosa) robustalis* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt*, xxxii, p. 150, 1915, non Guenée.

Samoa. Possibly 1 ♂, 1 ♀ (Friederichs), recorded by Rebel as *S. robustalis* Guenée. Guenée's type is a ♂ with a wing length of 21 mm.

Upolu : Apia, 1 ♀, 30.iv.1924.

Tutuila : Pago Pago, 1 ♀, x.1923 (Steffany).

Manua : Ofu, 1 ♀, 27.ii.1926 (Judd).

#### 91. *Nodaria acrosema* Turner (Plate XII, fig. 5 ; Plate XVIII, fig. 12).

*Nodaria acrosema* Turner, *Proc. Linn. Soc. N. S. W.*, xxvii, p. 125, 1902.

*Nodaria acrosema* Turner, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math-Naturw. Kl.*, lxxxv, p. 428, 1910.

*Nodaria acrosema* Turner, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915.

Hampson determined for Rebel as this species a single specimen with the following data.

Upolu : Malifa, 1 ♀, 7.viii.1905 (Rechinger).

#### 92. *Hydrillodes surata* Meyrick (Plate X, figs. 1, 3, 5, 7).

*Hydrillodes surata* Meyrick, *Trans. New Zealand Inst.*, xlii, p. 68, 1909.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 2 ♀♀, 19.x.1922, 2.vii.1924 (Armstrong), 2 ♀♀, 13, 14.x.1923



(Swezey and Wilder) ; 8 ♀♀, 18.ii., 31.iv., 7, 30.v.1924, vi.1925 ; Malololelei, 2 ♂♂, 2 ♀♀, 22.iii., 14.vi., 6.vii., 18.viii.1924.

Tutuila : Leone Rd., 1 ♀, 20.iii.1926 (Judd).

Manua : Ofu, 2 ♂♂, 27.ii., 2.iii.1926 (Judd) ; Tau, 1 ♀, 27.ix.1923 (Swezey).

[*Hydrillodes gravatalis* Walker] (Plate XII, fig. 7).

*Bocana gravatalis* Walker, *List Lep. Ins. B. M.*, xvi, p. 175, 1858.

*Hydrillodes ? gravatalis* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 428, 1910.

*Hydrillodes gravatalis* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt*, xxxii, p. 145, 1915.

Upolu : Malifa, 2 ♂♂, 6 ♀♀, 6.vi.-6.viii.1905 (Rechinger).

It does not seem to me likely that the specimens recorded by Rebel are really *H. gravatalis* Walker, and I am inclined to think they are *Hydrillodes surata* Meyrick.

93. *Hydrillodes sigma*, sp. n. (Plate X, figs. 2, 4, 6, 8).

♂. Antenna bone brown. The three segments of the palpus so modified that they form a curious figure resembling the Greek letter Σ ; palpus ochraceous buff mixed with bone brown, ochraceous buff inwardly. Thorax bone brown, ventrally ochraceous buff. Abdomen bone brown, ventrally streaked with avellaneous. Foreleg heavily clothed with bone brown and warm buff hair-scales ; mid leg bone brown, tibia and tarsal segments distally tipped with warm buff ; hind leg warm buff shaded with bone brown. Forewing bone brown with the area between the antemedial and postmedial fasciae fawn coloured ; a prominent fuscous black discocellular lunule, with bone brown shading below it to inner margin ; fuscous black dots at vein ends. Hindwing fuscous, with traces of a discocellular lunule and a slightly bowed postmedial fascia ; fringe drab. Underside ; forewing drab shaded with fuscous ; hindwing cartridge buff with a prominent fuscous black discocellular lunule and roughly parallel dentate fuscous black postmedial and subterminal fasciae.

Near the base of the hindwing arises a broad thin flap apparently extending over the tympanal orifice.

Expanse : 30-32 mm.

Holotype ♂. Upolu : Malololelei, 5.vii.1924.

♀. Similar to ♂, but with palpi sickle-shaped, with loose hair-scales posteriorly. Forewing sometimes uniformly bone brown.

Expanse : 30–34 mm.

Allotype ♀. Upolu : Malololelei, 24.ii.1924.

Paratypes. Upolu : Malololelei, 1 ♂, 1 ♀, 2.vii.1924 (Armstrong) ; 6 ♂♂, 13 ♀♀, 22–24.ii., 14.vi., 5, 7.vii.1924, 21.iv.1925, Vailima, 1 ♂, 1 ♀, 3 vi.1924, 1.ii.1925.

Tutuila : Pago Pago, 2 ♂♂, 2 ♀♀, i., ii.1924 (Steffany).

#### 94. *Bocana manifestalis* Walker.

*Bocana manifestalis* Walker, *List Lep. Ins. B. M.*, xvi, p. 171, 1858.

Upolu : Apia, 2 ♂♂, 2 ♀♀, 12, 24.ii., 30.iv., ix.1924.

Tutuila : Leone Rd., 1 ♀, 22.ix.1926 (Judd).

#### 95. *Progonia oileusalis* Walker (Plate XVIII, fig. 13).

*Herminia oileusalis* Walker, *List Lep. Ins. B. M.*, xvi, p. 116, 1858.

*Progonia oileusalis* Walker, Swinhoe, *Cat. Lep. Het. Oxford Museum*, ii, p. 197, 1900 : synonymy.

Samoa. 1 worn ♀, labelled iii.–viii.1921 (O'Connor).

The whole synonymy involved here requires confirmation, for which I have now no time, so I am compelled to accept Swinhoe's statements, which are probably correct.

#### 96. *Hypena gonospilalis* Walker.

*Hypena gonospilalis* Walker, *List Lep. Ins. B. M.*, xxxiv, p. 1516, 1865.

Upolu : Apia, 1 ♀, 11.iii.1923 (Armstrong).

It is impossible to be definitely satisfied with this determination on the basis of a single female, which I hesitate to damage for a genitalia preparation as I can see no way of getting confirmation if it should prove to differ slightly.

#### 97. *Ophiuche ferriscitalis* Walker.

*Hypena ferriscitalis* Walker, *List Lep. Ins. B. M.*, xxxiv, p. 1142, 1865.

Upolu : Apia, 1 ♂, 11.iii.1923 (Armstrong) ; 2 ♀♀, 13.ix.1923 (Swezey and Wilder) ; 27.viii.1924. ; Vailima, 1 ♂, 3.vi.1924.

Tutuila : Pago Pago, 2 ♂♂, i.1924 (Steffany) ; 12.viii.1925.

98. *Hyenodes taona*, sp. n. (Plate XII, fig. 6 ; Plate XVIII, fig. 11).

♂. Palpus inwardly light buff to warm buff, outwardly warm sepia with a dull violet black gloss (in changing light), irrorated with wood brown, the third segment tipped with warm buff. Antenna light buff to pale drab grey, proximal third irrorated with warm sepia. Head and thorax fuscous to warm sepia. Abdomen dorsally and ventrally pale drab grey proximally to drab grey and fuscous distally, glossy, with expanding lateral tufts of fuscous dorsal crests. Pectus pale drab grey. Legs pale drab grey, fore and mid legs heavily shaded with warm sepia, hind leg with tarsi infusate. Forewing warm sepia with dull violet black gloss ; an orange rufous to Sanford's brown sub-basal spot below costa ; three Sanford's brown spots antemedially, broadly edged distally with fuscous black, inwardly oblique from below costa towards inner margin ; a light buff dash from costa towards upper angle of cell ; an ill-defined Sanford's brown spot on discocellulars, broadly surrounded with fuscous black ; three small equidistant light buff dots on costa between end of cell and apex ; commencing below the third dot, and just above vein  $R_5$ , an oblique, narrow, orange rufous to Sanford's brown postmedial fascia to inner margin at two-thirds edged proximally with fuscous black ; an oblique light buff dash from just before apex, almost joining the postmedial, but continued as an ill-defined sinuous light buff subterminal fascia ; a light buff terminal line interrupted at the veins, converting it into a series of terminal interneural dashes, each preceded by fuscous black. Hindwing semi-translucent, *whitish* to pale olive grey, lightly suffused with fuscous distally, with a lightly infusate discocellular spot, and traces of postmedial fascia ; fringe fuscous, except at anal angle. Underside of forewing uniformly hair brown with five light buff marks on costa ; of hindwing similar to upperside. Expanse 18 mm.

♀. Similar, but with orange rufous markings on forewing almost obliterated by fuscous black scales, and hindwing more generally infusate. Underside as in male. Expanse : 18 mm.

Holotype ♂. Savaii : 1,000 feet, 21.xi.1925.

Allotype ♀. Upolu : Malololelei, 2,000 feet, 25.ii.1924.

Paratypes. Upolu : 1 ♂, 2.vii.1924 (Armstrong) ; Apia, 10 ♂♂, 13 ♀♀, 22-25.ii., 15, 22.vi.1924, 21-22.iv., 5.xii.1925.

Savaii : 3 ♂♂, 1 ♀, 21.xi.1925.

99. *Arrade samoensis*, sp. n (Plate VIII, figs. 10, 11).

♂. Antenna sepia. Palpus with third segment slender, as long as second, sepia, avellaneous inwardly. Head avellaneous. Thorax avellaneous mixed with sepia. Abdomen avellaneous, distally shaded with sepia. Sternum and venter avellaneous, the latter shaded with sepia. Fore and mid legs sepia, tipped with cartridge buff at both extremities of femora and tibiae, and tarsal segments distally. Hind leg cartridge buff. Forewing sepia, the pattern in cartridge buff; sub-basal fascia of two lunules, oblique basad to inner margin; bowed antemedial fascia (concavity basad), broad from costa to below cell, then narrow to inner margin; spot on discocellulars; three dots on costa between antemedial fascia and postmedial fascia; a wavy deeply bowed postmedial fascia (concavity basad) from costa at about two-thirds to just beyond middle of inner margin; a wavy subterminal fascia parallel with termen; a series of ill-defined sepia terminal lunules; fringe cartridge buff shaded with sepia at apex, middle and tornus. Hindwing avellaneous, uniformly but lightly shaded with fuscous; fringe warm buff. Underside: forewing and hindwing avellaneous, lightly shaded with fuscous.

♀. Similar.

Expanse: 22 mm.

Holotype ♂. Upolu: Apia, x.1925.

Allotype ♀. Upolu: Malololelei, 21.vi.1924.

Paratype ♂. Upolu: Vailima, 24.v.1924.

100. *Luceria oculalis* Moore (Plate XVIII, fig. 9).

*Rivula oculalis* Moore, *Proc. Zool. Soc. Lond.*, 1877, p. 614.

Upolu: Apia, 2 ♀♀, 13.iv., 18.v.1924 (Armstrong).

101. *Chusaris aurantilineata* Hampson (Plate VII, fig. 4).

*Chusaris aurantilineata* Hampson, *Fauna Brit. Ind.*, *Moths.* iv, *Appendix*, p. 546, 1896.

Savaii. 2 ♀♀, 21.xi.1925.

These two specimens are in such poor condition that I am not absolutely certain that they belong to this species. They are, however, sufficiently like the Ceylon specimens to make it equally difficult to say they are not con-specific.

## HYBLAEINAE.

102. *Hyblaea sanguinea* Gaede.

*Hyblaea sanguinea* Gaede, *Deutsch. Ent. Zeit.*, 1917, p. 26, 1917.

*Hyblaea puera vitiensis* Prout, *Ann. Mag. Nat. Hist.* (9), iii, p. 188, 1919.

*Hyblaea apricans* Boisduval, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 424, 1910, non Boisduval.

*Hyblaea apricans* Boisduval, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 145, 1915, non Boisduval.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 5 ♂♂, 5 ♀♀, 10.x., 10, 30.xii.1922, 30.v.1924 (Armstrong) ;  
1 ♂, 26.v.1924.

103. *Hyblaea puera* Cramer.

*Phalaena Noctua puera* Cramer, *Uitl. Kapellen*, ii (9), p. 10 and index, pl. 103, figs. D, E, 1777.

Tutuila : Pago Pago, 1 ♂, x.1923 (Steffany).

## SPHINGIDAE.

## ACHERONTIINAE.

104. *Herse convolvuli* Linnaeus.

*Sphinx convolvuli* Linnaeus, *Syst. Nat.*, ed. 10, p. 490, 1758.

*Herse convolvuli* Linnaeus, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 123, 1915.

Upolu : Apia, 1 ♂ (Henniger) ; 5 ♀♀, 20.viii., 18.x.1922, 4, 14.ii.1923,  
20.vii.1924 (Armstrong) ; 1 ♂, 9.ii.1924 ; Malololelei, 2 ♀♀, 23.ii., 4.v.1924.

Tutuila : 2 ♀♀, xii.1917, iv.1918 (Kellers).

## SESIINAE.

105. *Cephonodes armatus armatus* Rothschild and Jordan.

*Cephonodes armatus armatus* Rothschild and Jordan, *Rev. Sphing.*, Nov. Zool., ix, Suppl., p. 470, 1903.

*Cephonodes armatus* Rothschild and Jordan, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 422, footnote, 1910.

*Cephonodes armatus armatus* Rothschild and Jordan, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 144, 1915.

Upolu : Apia, 1 ♂, 10.x.1922 (Armstrong).

(Bred by Buxton in Ellice Is. from larvae on *Morinda citrifolia*.)



## PHILAMPELINAE.

106. *Chromis erotus eras* Boisduval.

*Deilephila eras* Boisduval, *Voy. Astrolabe, Lép.*, p. 185, 1832

*Chromis erotus eras* Boisduval, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 422, 1910.

*Chromis erotus eras* Boisduval, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 144, 1915.

Samoa. 1 ♂, 1920, 1 ♀, iii.–viii.1921 (O'Connor); 1 ♀, labelled "Navigators' Islands"; 1 ♂, 1 ♀, before 1878 (Whitmee); 1 ♂, 6.x.

Upolu: Apia, 3 ♂♂, 1 ♀, 14.ii., 11.iii., 18.iv.1923, 20.vii.1924 (Armstrong); 1 ♂, 6.vii.1923 (Edwards); 1 ♂, 5 ♀♀, 17.ii.1923, 13, 19, 24.iii., 2.ix., 18.x.1924; Malololelei, 2 ♂♂, 2 ♀♀, 14, 24.ii., iv., 10.vii.1924; Motootua, 1 ♂, 1 ♀, 31.v., 10.vi.1905 (Rechinger); Vailima, 1 ♀, 29.iii.1924.

Savaii: 1 specimen (sex?), vii.1905 (Rechinger); Salailua, 1 ♂, 12.viii.1924; Fagamalo, 1 ♂, 19.ii.1925.

Tutuila: 1 ♀, xii.1917 (Kellers); Pago Pago, 1 ♀, v.1896 (de la Garde).

107. *Deilephila placida steffanyi* Clark.

*Deilephila placida steffanyi* Clark, *Proc. New England Zool. Club*, ix, p. 106, 1927.

*Deilephila placida torenia* Druce, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 123, fig., 1915 (non Druce).

Upolu: Apia, 1 ♀, before 1914 (Henniger); 1 ♂, iv.1925.

Tutuila: Pago Pago, 1 ♀, x.1923 (Steffany).

108. *Macroglossum hirundo samoanum* Rothschild and Jordan.

*Macroglossum hirundo samoanum* Rothschild and Jordan, *Nov. Zool.*, xiii, p. 407, 1906.

*Macroglossum hirundo samoanum* Rothschild and Jordan, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 423, 1910.

*Macroglossum hirundo samoanum* Rothschild and Jordan, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 124, 1915.

*Macroglossum hirundo samoanum ab. navigatorum* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 124, 1915.

Upolu: vi.1905 (Rechinger), observed but not taken; Apia, 1 ♀, 27.v.1912 (Henniger); 1 ♂, 1 ♀, *ab. navigatorum* Rebel (Henniger); 1 ♂, 2 ♀♀, 8.v.1922, 12.iii.1923, 1.ix.1924 (Armstrong); 6 ♂♂, 5 ♀♀, 25.viii., 2, 20, 26, 27, 29.ix., 2.x.1924 (several bred from *Morinda citrifolia*); Malololelei, 1 ♂, 10.viii.1922 (Armstrong); 5 ♂♂, 1 ♀, 23.ii., 4.v., 7, 10.vii., ix.1924, 22.iv.1925.

## CHAEROCAMPINAE.

109. *Hippotion celerio* Linnaeus.

*Sphinx celerio* Linnaeus, *Syst. Nat.*, ed. 10, p. 491, 1758.

*Hippotion celerio* Linnaeus, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 124, 1915.

Upolu : Apia, 5 ♂♂, 4 ♀♀, 8, 10, 11, 14.x.1922 (Armstrong) ; 1 ♂, 3 ♀♀, 18.iv., 17.vii., 16.viii., 15.ix.1924 ; Malololelei, 1 ♂, 10.v.1924 (Armstrong) ; 1 ♂, 25.iv.1924.

The larvae are occasionally a serious pest of the leaves of " taro " (*Colocasia*) an Aroid with an edible root. An illustration, showing the damage to this plant, is to be found in *Bull. Ent. Res.*, xviii, Plate 2, fig. 1.

## URANIIDAE.

## EPIPLEMINAE.

110. *Epiplema amygdalipennis* Warren.

*Epiplema amygdalipennis* Warren, *Nov. Zool.*, iv, p. 201, 1897.

*Epiplema amygdalipennis* Warren, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 131, pl. 1, fig. 7, 1915.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Savaii : Fagamalo, 1 ♀, 3.viii.1924 ; Tuasivi, 1 ♂, 1 ♀, 8.ii.1924.

111. *Epiplema*, sp.

*Epiplema* sp., Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 151, 1915.

Rebel gives a description of a single female example, which he considers is in too poor a condition to determine properly. The description does not appear to me to be applicable to any of the material in my hands at the moment.

112. *Epiplema hapala*, sp. n. (Plate XI, fig. 3).

♂. Palpus cartridge buff, dorsally, and sometimes laterally, bistre. Antenna honey yellow, shaft white-scaled. Head with vertex white, frons bistre. Thorax white, patagia snuff brown. Abdomen white. Pectus and venter white, the latter tinged with cartridge buff distally. Legs white, fore coxa, tibia and tarsus shaded with bistre, mid and hind tibiae tinged with light

buff. Forewing white, costa tinged with cartridge buff and shaded with bistre ; a rough bistre semicircle on inner margin, its diameter extending along the third quarter ; from below costa a sharply oblique bistre fascia (directed tornad) through upper angle of cell but not reaching beyond vein  $M_3$  ; from below costa at two-thirds a narrow bistre postmedial fascia, oblique, slightly bowed (concavity basad), running towards middle of termen but stopping short just beyond vein  $M_2$  ; a series of blackish brown interneural dots before the termen, converging towards termen as they approach the tornus ; a fine pre-terminal bistre line ; fringe snuff brown. Hindwing white, tinged with cartridge buff particularly along inner margin ; a blackish brown spot on costa at one-quarter, another at the middle, commencing a slightly interrupted, bowed (concavity basad) bistre postmedial fascia from middle of costa to inner margin at three-quarters ; a series of interneural blackish brown dots before the termen, from vein  $R_s$  towards anal angle ; fringe cartridge buff ; a large fold along inner margin containing fine silky hair-scales. Underside white tinged with cartridge buff ; forewing with a longitudinal fascia of blackish brown irroration from base to apex, running between cell and costa, with which it is parallel.

Expanse : 23 mm. (21 mm. from tip to tip).

♀. Similar. Forewing with bistre strigulae, causing the ♀ to look browner than the male ; the short postmedial fascia is distinctly edged distally with white ; hindwing with the postmedial fascia distinctly broadened towards inner margin, and tinged with brighter colour—chestnut. Underside cartridge buff, forewing suffused with warm buff costad and terminad ; irroration more in the form of transverse strigulae, and scattered over wing.

Expanse : 25 mm.

Holotype ♂. Upolu : Malololelei, 12.iii.1924.

Allotype ♀. Upolu : Malololelei, 2.vii.1924 (Armstrong).

Paratypes. Upolu : Malololelei, 1 ♂, 2.vii.1924 (Armstrong) ; 1 ♂, 12.iii.1924.

### 113. *Epiplema lypera*, sp. n. (Plate XI, figs. 1, 2).

♂. Palpus fuscous black. Antenna fuscous, the shaft scaled with light buff. Head with frons fuscous, vertex light buff. Thorax fuscous, drab laterally. Abdomen fuscous and drab mixed, light buff distally. Pectus, venter and legs light buff, suffused in varying degrees with fuscous to drab. Forewing light

buff, patchily covered with fuscous black to present a longitudinally streaked effect, relieved with some chestnut brown mostly beyond the indistinct post-medial fascia; bowed (concavity basad) antemedial and postmedial fasciae, hardly traceable; costa broadly fuscous black; termen and fringe fuscous; the chestnut brown runs indistinctly in two fasciae, one through the cell roughly parallel with costa, the other between the cubital veins. Hindwing liver brown with inner margin broadly light buff, some chestnut brown where the other two colours join; a narrow, bowed (concavity basad) chestnut postmedial fascia from costa at three-fourths, roughly parallel with the direction of the termen (but lacking its irregularities), obsolescent towards inner margin.

Underside light buff sparsely irrorated with fuscous, more noticeably on costa of both wings; forewing with a longitudinal indistinct stripe of irroration through the cell from base to termen.

Expanse: 23 mm.

♀. Similar, larger. Bowed antemedial and postmedial fasciae on forewings slightly more prominent; hindwing with the projection on the termen at vein Rs more produced than in the ♂; colours more mixed and patchy; a distinct discocellular streak. Underside of hindwing noticeably paler in colour than forewing, more so than in ♂; traces of bowed postmedial bands of irroration.

Expanse: 28 mm.

Holotype ♂. Upolu: Malololelei, 24.ii.1924.

Allotype ♀. Upolu: Malololelei, 24.vi.1924.

Paratype ♂. Upolu: Malololelei, 2.vii.1924 (Armstrong).

#### 114. *Gathynia lugens* Warren.

*Epiplema lugens* Warren, *Nov. Zool.*, iv, p. 202, 1897.

The type in the Tring Museum is a female taken at Apia by Woodford.

Upolu: Apia, 1 ♂, x.1925; Malololelei, 1 ♀, 21.iv.1925; Vailima, 1 ♂, 29.iii.1924.

#### 115. *Phazaca kellersi*, sp. n. (Plate XVIII, fig. 14).

♀. Palpus olive brown, white on inner side. Antenna with the shaft white. Head with frons olive brown, lower half streaked with white; vertex white. Thorax tilleul buff, buffy brown in front. Abdomen tilleul buff tinged

with olive buff. Pectus, venter and legs tilloul buff, the foreleg shaded with buffy brown, mid and hind tarsi enriched with warm buff. Forewing tilloul buff, appearing pale brownish drab owing to the fuscous tips of numerous scattered scales, sometimes so arranged as to form obscure transverse strigulae; an indistinct, fine antemedial fascia, oblique from costa at one-third to vein  $M_3$  at one quarter, there angled and then oblique to middle of inner margin; an indistinct amber brown postmedial fascia deeply bowed (concavity basad) from costa at three-quarters to vein  $M_3$  at two-thirds, thence obsolescent, possibly ending in the sharply oblique streak on the inner margin at three-quarters; the inner marginal extremities of both the antemedial and postmedial fasciae together give the appearance of one of those semi-circular marks common on the inner margin of the forewing of moths belonging to this family; a pre-terminal series of velvety bone brown dashes; fringe drab. Hindwing similar in colour to forewing; a bowed antemedial fascia and an angled postmedial fascia; velvety bone brown pre-terminal dashes preceded by some opalescent scaling. Underside uniform tilloul buff, covered sparsely with fuscous dots or strigulae.

Expanse : 25 mm.

Holotype ♀ and paratype ♀. Tutuila : (Kellers).

## PSYCHIDAE.

### [? *Clania*, sp.]

? *Clania* sp., Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 432, fig. 33, 1910 (larva-case).

Upolu : Apia, 1 larva-case, xii.1925, possibly belonging to the same species as that recorded by Rebel as having been found by Dr. Rechner on *Melochia odorata* (STERCULIACEAE).

### 116. *Mahasena corbetti* Tams (Plate XII, fig. 3).

*Mahasena corbetti* Tams, *Ann. Mag. Nat. Hist.* (10), i, p. 632, 1928.

Tutuila : Pago Pago, 1 ♂, xii.1925.

### [? *Fumea*, sp.]

? *Fumea* sp., Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 432, fig. 34, 1910 (larva-case).

A single larva-case is recorded as having been taken by Dr. Rechner on an epiphytic fern (*Polypodium caudiforme* Bl.) on Upolu on 23.vi.1905. This may belong to the species described below.



117. *Fumea samoana*, sp. n. (Plate XVIII, fig. 1).

♂. Antenna pectinate, apparently with 25 segments. Fore tibia with an epiphysis, hind tibia with spurs. Tarsi 5-segmented. Light brownish olive, glossy, the forelegs infusate.

Expanse : 12 mm.

Holotype ♂. Upolu : Vailima, 8.vi.1924.

Paratype ♂. Upolu : Apia, 11.vi.1924 (fragments).

## PYRALIDAE.

## THYRIDINAE.

118. *Striglina lithophora*, sp. n. (Plate XI, g. 6).

♀. Pinkish to deep vinaceous, irrorate or strigulate with sepia, producing a dirty vinaceous brown effect ; ochraceous buff mottling in cell, and beneath it a variable number of *pearly* spots. Underside paler, sepia strigulation more pronounced.

Expanse : 33 mm.

Holotype ♀. Upolu : Vailima, 19.ix.1922 (Armstrong).

Paratypes. Upolu : Vailima, 1 ♀, 19.ix.1922 (Armstrong) ; Malololelei, 2 ♀♀, vii., 9.vii.1924.

119. *Striglina anthina*, sp. n. (Plate XI, fig. 5).

♂. Cartridge buff to light ochraceous salmon, mottled with tawny and various shades of buff and pink, too uncertain in distribution to define accurately ; two oval semi-hyaline patches below lower angle of cell, the larger above vein  $Cu_2$ , the smaller below it ; postmedial fascia indicated by fuscous black strigulae and dots interneurally below costa as far as vein  $M_2$  ; a somewhat irregular series of fuscous black dots subterminally, with abundant strigulae beyond them ; sometimes drab shading postmedially. Hindwing with similar facies, but without semi-hyaline patches. Hind tibia heavily fringed with light buff hair-scales, and with a large tuft of fuscous black curled scales.

Expanse : 30 mm.

♀. Similar, sometimes darker, mottled with rufous.

Expanse : 30-33 mm.

Holotype ♂. Upolu : Malololelei, 21.iv.1925.

Allotype ♀. Upolu : Malololelei, 9.vii.1924.

Paratypes. Upolu : Apia, 2 ♀♀, x.1925 ; Malololelei, 1 ♂, 22.iv.1925 ; Vailima, 1 ♀, xi.1925.

Tutuila : 1 ♀ (Kellers) ; Pago Pago, 1 ♀, x.1923 (Steffany) ; Amauli, 1 ♀, 17.iii.1926 (Judd).

# 120. *Striglina oecia*, sp. n. (Plate XI, fig. 4).

♂. Ochraceous buff, the forewing mottled with ochre red ; fore tibia infusate, other legs, as well as palpus, frons and base of costa tinged with ochraceous tawny ; pattern of forewing consists of ochre red mottling arranged in first an antemedial series of spots, almost straight, then a prominent discocellular spot, followed by a postmedial fascia from costa at one-sixth to inner margin just beyond middle, broader below vein  $M_2$ , and also a number of dots scattered over the wing ; hindwing with some chestnut brown streaking on proximal half, a prominent chestnut brown discocellular spot, and the distal half of the wing densely mottled with ochre red. Underside with prominent drab to fuscous discocellular spots, and other scattered but small dots or strigulae.

Expanse : 28–30 mm.

♀. Light ochraceous buff to warm buff, pattern and mottling fuscous, with no trace of ochre red.

Expanse : 30–33 mm.

Holotype ♂. Upolu : Apia, 27.i.1924.

Allotype ♀. Upolu : Apia, 10.xi.1921 (Armstrong).

Paratypes. Samoa. 1920 (O'Connor).

Upolu : Apia, 2 ♂♂, 10.iii.1923 ; 13.iv.1924 (Armstrong) ; 4 ♂♂, 2 ♀♀, 30.iv., x.1925 ; Malololelei, 2 ♂♂, vii.1925 (Wilder) ; 1 ♂, 1 ♀, 24.ii., 24.vi.1924.

Tutuila : Pago Pago, x.1923, i., 12.iv.1924 (Steffany).

This species differs from *S. ravauensis* Hampson in the genitalia, and is possibly uniformly slightly larger ; superficially the two are extremely alike.

# 121. *Betousa hemicycla*, Meyrick (Plate XI, fig. 8).

*Siculodes hemicycla* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 216.

Upolu : Malololelei, 1 ♀, 2.vii.1924 (Armstrong).

Tutuila : Pago Pago, 2 ♀♀, ii.1924 (Steffany).

122. *Rhodoneura plagifera* Butler.

*Microsca plagifera* Butler, *Trans. Ent. Soc. Lond.*, 1886, p. 420.

*Rhodoneura* sp., Rebel, *Verh. zool.-bot. Ges. Wien*, lxii, p. (121), 1912.

*Rhodoneura incarnatalis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 132, pl. 1, fig. 4, 1915.

*Rhodoneura incarnatalis* ab. *fenestralis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 132, 1915.

Upolu: Apia, 1 ♀ (Friederichs); 1 ♀, xii.1910 (Prowazek); 2 ♀♀, 11.xii.1921, 7.v.1922 (Armstrong).

Tutuila: Pago Pago, 1 ♂, i.1924 (Steffany).

Hampson (*Proc. Zool. Soc. Lond.*, 1897, p. 618) treated *Microsca plagifera* Butler as synonymous with *Rhodoneura myrtaea* Drury, which certainly applies to an entirely different insect. Butler's type is a Tonga Islands specimen (♀).

123. *Rhodoneura sericatalis* Rebel.

*Rhodoneura sericatalis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 132, pl. 1, fig. 6, 1915.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 2 ♀♀ (Friederichs); 4 ♂♂, 3 ♀♀, 13-15.ix.1923 (Swezey and Wilder); 1 ♀, 30.v.1924; Malololelei, 1 ♂, 27.vi.1924 (Armstrong); 3 ♂♂, 6 ♀♀, 15, 23, 24.ii., 4.v.1924, 21.iv., xii.1925; Mt. Vaea, 1 ♂, 25.iv.1924 (Bryan); Leulumoega, 1 ♂, 14.ix.1923 (Swezey and Wilder).

Tutuila: Pago Pago, 5 ♀♀, x.1923, i.1924 (Steffany); 1 ♀, 10.ix.1923 (Swezey and Wilder).

124. *Brixia dialitha*, sp. n. (Plate XI, fig. 7).

♂. Palpus cinnamon brown, narrowly straw yellow at joints. Antenna honey yellow. Head straw yellow, with cinnamon brown in front of antennae. Thorax and abdomen straw yellow shaded with cinnamon brown. Pectus, venter and legs straw yellow, the latter variously shaded and banded with cinnamon brown. Forewing straw yellow with a pattern of cinnamon brown leaving the ground-colour mostly arranged in circular spots; a splash of cinnamon brown from base to apex below costa, narrow proximally, spreading distally. Hindwing colour similarly disposed, but instead of a longitudinal splash, a transverse slightly bowed cinnamon brown fascia across middle. Underside similar, the forewing with the longitudinal cinnamon-brown splash restricted to

the proximal two-thirds of the cell, with a small patch just beyond the discocellulars, both areas irrorated with opalescent scales.

Expanse : 23 mm.

Holotype ♂ and paratype ♂. Tutuila : Pago Pago, v.1896 (de la Garde).

#### GALLERIINAE.

#### 125. *Ceratotalama argosema* Meyrick (Plate VI, fig. 25 ; Plate XIII, fig. 2).

*Ceratotalama argosema* Meyrick, *Exot. Microlep.*, iv, p. 246, 1932.

*Tirathaba chionophthalma* Meyrick, *Exot. Microlep.*, iv, p. 488, 1934.

Upolu : Malololelei, 3 ♀♀, 25.ii.1924, 21.iv.1925.

In the Samoan specimens here recorded the white spot in the disc is obsolescent or actually obsolete. The variation in the size of the white spot leads me to believe that only one species is represented, as in all other respects the insects seem to me to be identical.

#### 126. *Acolastodes oenotripta* Meyrick (Plate XIV, figs. 4-6).

*Acolastodes oenotripta* Meyrick, *Exot. Microlep.*, iv, p. 489, 1934.

Upolu : Malololelei, 1 ♀, 24.ii.1924.

#### 127. *Corcyra cephalonica* Stainton.

*Melissoblastes* (?) *cephalonica* Stainton, *Ent. Monthly Mag.*, ii, p. 172, 1866.

*Corcyra cephalonica* Stainton, Ragonot, *Ent. Monthly Mag.*, xxii, p. 23, 1885.

Upolu : Apia, 2 ♂♂, 1 ♀, 7, 30.v., 11.vi.1924.

Larvae infesting rice.

#### 128. *Tirathaba trichogramma* Meyrick.

*Heteromicta trichogramma* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 273.

*Tirathaba trichogramma* Meyrick, Ragonot, *Rom. Mém.*, viii, p. 461, pl. 51, fig. 13, 1901.

*Tirathaba trichogramma* Meyrick, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 133, 1915.

*Hyleletis trichogramma* Meyrick, *Exot. Microlep.*, iv, p. 241, 1932.

Samoa. 1 ♀ (Henniger).

Upolu : 2 ♀♀ (Friederichs) ; Apia, 1 ♀, 12.ix.1923 (Swezey and Wilder) ; 2 ♀♀, 30.v., 19.vii.1924.

Tutuila : Pago Pago, 3 ♀♀, x.1923, i., ii.1924 (Steffany).

Manua : Ofu, 1 ♀, 27.ii.1926 (Judd).

## CRAMBINAE.

129. *Crambus dielota* Meyrick.

*Calamotropha dielota* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 268.

*Crambus dielota* Meyrick, Hampson, *Proc. Zool. Soc. Lond.*, 1895, p. 926.

Samoa. 1 ♂, iii.-viii.1921 (O'Connor).

130. *Diptychophora calliptera*, sp. n. (Plate XVII, Fig. 12).

♀. Palpus ochraceous orange, fuscous distally. Antenna drab, ringed with fuscous black. Head, thorax and abdomen fuscous black. Pectus light buff tinged with drab, venter fuscous. Legs drab with some fuscous shading. Forewing drab suffused with fuscous black, proximal half crossed by several bars, glossy plumbago slate, ochraceous orange, fuscous black, plumbago slate, fuscous black, and plumbago slate respectively; a deeply bowed plumbago slate postmedial fascia edged distad with fuscous black, succeeded by ochraceous orange to the termen, the strip of ochraceous orange being broken up by bars (parallel with the veins) of plumbago slate; a fine fuscous black terminal line; fringe fuscous mixed with plumbago slate. Hindwing drab suffused with fuscous. Underside cartridge buff lightly suffused with fuscous, more pronounced post-medially.

Expanse: 10 mm.

Holotype ♀. Upolu: Malololelei, 25.iv.1924.

Paratypes. Upolu: Malololelei, 2 ♀♀, 25.ii.1924.

131. *Diptychophora amydra*, sp. n. (Plate XVII, fig. 13).

♀. Palpus, antenna, head, thorax, abdomen and venter fuscous to fuscous black; pectus and legs light buff, the latter shaded with fuscous. Forewing fuscous black, fringe dusky green blue, glossy. Hindwing above, and both fore- and hindwings beneath, tilleul buff lightly shaded with fuscous. Expanse: 8 mm.

Holotype ♀. Upolu: Malololelei, xii.1925.

Paratypes. Upolu: Malololelei, 2 ♀♀, 20.vi.1924 (Armstrong).



132. *Diptychophora dialitha*, sp. n. (Plate XVII, fig. 11).

♂ and ♀. Palpus, antenna, head, thorax and abdomen fuscous to fuscous black; pectus warm buff in front, fuscous behind; legs light buff shaded with fuscous. Forewing fuscous black, the proximal third crossed by slightly bowed (concavity terminad) bars, in the following sequence: spectrum blue, ochraceous orange, fuscous black (fine), spectrum blue, fuscous black (coarse); rest of disc before postmedial fascia comprising a fuscous black triangle irrorated with cartridge buff or ivory yellow; a sharply angled spectrum blue postmedial fascia, edged with fuscous black on each side; between upper arm of postmedial and apex of wing an ochraceous orange patch divided by a spectrum blue bar, parallel with the postmedial; lower arm of postmedial succeeded by a broad velvety fuscous black patch, edged proximad with ivory yellow, and exhibiting four minute equidistant white dots; fringe fuscous, with a pinkish vinaceous sheen, and a dash of cartridge buff at apex of wing. Hindwing fuscous. Underside forewing tilleul buff, with a patch of ivory yellow scales between cell and inner margin antemedially; across the apex a succession of bars—fuscous black, spectrum blue, ochraceous orange, spectrum blue, ochraceous orange, with a dash of ivory yellow followed by fuscous on the fringe; four interneural fuscous black dots before the termen between vein  $M_2$  and tornus, with ivory yellow dots on the veins; underside hindwing tilleul buff, lightly shaded with fuscous. Expanse: 8–9 mm.

Holotype ♂. Upolu: Malololelei, iv.1924.

Allotype ♀. Upolu: Malololelei, 28.vi.1924.

Paratypes. Upolu: Malololelei, 2 ♂♂, 1 ♀, iv., 20.vi., vii.1924.

Savaii: Fagamalo, 1 ♂, xi.1925.

## SCHOENOBIIINAE.

133. *Scirpophaga nivella* Fabricius.

*Tinea nivella* Fabricius, *Ent. Syst.*, iii, (2), p. 296, 1794.

Upolu: Fasitoouta, 1 ♀, 9.xi.1925.

Fletcher (*One Hundred Notes on Indian Insects*, 1918) states that *Scirpophaga auriflua* Zeller is a later name than *S. xanthogastrella* Walker, which name must have preference. But *S. xanthogastrella* Walker is an entirely different species. Hampson sinks *S. auriflua* to *S. nivella* Fabricius, and this we must accept for the present.

## ANERASTIINÆ.

134. *Rhinaphe virginella* Meyrick.

*Anerastia virginella* Meyrick, *Proc. Linn. Soc. N.S.W.*, iv, p. 233, 1879.

*Erythrophlebia virginella* Meyrick, Hampson in Ragonot, *Rom. Mém.*, viii, p. 394, pl. 40, fig. 8, 1901.

*Erythrophlebia ? virginella* Meyrick, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 133, 1915.

*Rhinaphe virginella* Meyrick, Hampson, *Proc. Zool. Soc. Lond.*, 1918, p. 84.

Upolu : 1 ♀ (Friederichs).

This species is not represented in the material before me, and I merely repeat Rebel's record, though he evidently was not certain of the determination. His statement (translated) reads :—

“ A ♀ from Upolu (coll. Friederichs), exhibiting unicolorous, marking-less, fairly dark reddish forewings, belongs probably to this species.”

135. *Rhinaphe nigricostalis* Walker.

*Trachonitis nigricostalis* Walker, *List Lep. Ins. B. M.*, xxvii, p. 40, 1863.

*Comorta nigricostalis* Walker, Ragonot, *Rom. Mém.*, viii, p. 389, pl. 39, fig. 22, 1901.

*Rhinaphe nigricostalis* Walker, Hampson, *Proc. Zool. Soc. Lond.*, 1918, p. 83.

Samoa. 1 ♀, iii.–viii.1921 (O'Connor).

Upolu : Apia, 1 ♂, 1 ♀, 30, 31.v.1924.

Tutuila : Pago Pago, 1 ♀, i.1924 (Steffany).

## 136. Genus ? species ?

“ *Anerastine spec. (♀)*,” Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 151, 1915.

Samoa. 1 ♀ (Friederichs).

As far as I am able to judge from Rebel's description, the specimen mentioned by him belongs to a species I do not know.

His description is roughly as follows :—

Palpi dark, porrect, projecting for a distance equal to twice the diameter of the head. The venation of the forewing is quadrifid, that of the hind not being distinguishable with certainty. The narrow forewing is light red-brown with a clear white costal stripe reaching almost to the apex of the wing. The hindwing is whitish with a brownish fringe.

Expanse : 15 mm.

## PHYCITINAE.

137. *Ephestia cautella* Walker.

*Pempelia cautella* Walker, *List Lep. Ins. B. M.*, xxvii, p. 73, 1863.

*Ephestia cautella* Walker, Hampson, *Fauna Brit. Ind.*, *Moths*, iv, p. 66, 1896.

*Ephestia cautella* Walker, Ragonot, *Rom. Mém.*, viii, p. 292, pl. 34, fig. 23, 1901.

Upolu : Lalomanu, Aleipata, 1 ♀, xi.1924.

138. *Homoeosoma ephestidiella* Hampson.

*Homoeosoma ephestidiella* Hampson, *Fauna Brit. Ind.*, *Moths*, iv, p. 67, 1896.

*Homoeosoma ephestidiella* Hampson, in Ragonot, *Rom. Mém.*, viii, p. 255, pl. 49, fig. 5, 1901.

Upolu : 1 ♀, vi.1924 ; Malololelei, 6 ♀♀, 21, 22, 25.vi.1924, 2.iv.1925.

Tutuila : Pago Pago, 1 ♂, 3 ♀♀, 9, 10, 18.ix.1923 (Steffany) ; 1 ♂, 14.xii.1925.

139. *Ptyobathra polia*, sp. n. (Plate XIII, fig. 12).

♀. Fuscous, with some white irroration on palpus, legs and pectus. Forewing fuscous suffused with white, the white forming noticeably an oblique bar from costa at one-third to middle of lower margin of cell, the ground-colour accentuated to fuscous black beyond it in middle of cell, followed by an ill-defined white patch surrounding two fuscous black discocellular dots ; traces of an indistinct subterminal fascia and a series of terminal dots ; fringe fuscous. Hindwing drab. Underside drab.

Expanse : 20 mm.

Holotype ♀. Upolu : Malololelei, 2 vii.1924 (Armstrong).

140. *Thylacoptila auchmodes* Turner.

*Phycita auchmodes* Turner, *Proc. Roy. Soc. Queensland*, xix, p. 50, 1905.

*Thylacoptila auchmodes* Turner, *loc. cit.*

Upolu : Malololelei, 2 ♂♂, 2 ♀♀, 24, 25.ii.1924.

141. *Thylacoptila gonylasia*, sp. n. (Plate XIII, fig. 1 ; Plate XIV, fig. 2).

♂. Palpus vinaceous cinnamon mixed with liver brown. Antenna honey yellow. Head vinaceous cinnamon. Thorax vinaceous cinnamon, patagium

and tegula shaded with liver brown. Abdomen ochraceous buff. Pectus and venter warm buff, with orange-buff scaling at the claspers. Legs vinaceous cinnamon shaded with drab, cinnamon and fuscous; mid femur and tibia stout the latter fringed broadly with drab scales; hind tibia with a long ochre red brush of hair-scales from proximal third, distal two-thirds broadly fringed with long pinkish cinnamon scales. Forewing vinaceous cinnamon, irrorated and shaded with liver brown; an antemedial ridge of liver brown raised scales; an oblique, bowed, liver brown discocellular streak; a prominent crenulate subterminal fascia roughly parallel with termen; a terminal series of interneural liver brown dots; fringe cinnamon. Hindwing ochraceous buff to pale orange yellow, glossy. Underside both fore and hindwings ochraceous buff, glossy, forewing with proximal half strongly shaded with fuscous, hindwing with pinkish cinnamon shading on costa.

Expanse: 20 mm.

Holotype ♂. Upolu: Malololelei, 22.ii.1924.

Paratype ♂. Tutuila: Pago Pago, x.1923 (Steffany).

#### 142. *Nephopteryx ceratistes*, sp. n.

(Plate VI, fig. 24; Plate XIII, figs. 3, 4; Plate XIV, figs. 1, 3).

♂. Palpus large, hollowed out to receive tufted maxillary palpus, reaching above vertex of head, pinkish buff shaded with chocolate. Antenna russet, the shaft pinkish buff shaded with chocolate, at the base of the shaft swollen and slightly distorted. Head warm buff, frons with a curved horn-shaped tuft of flattened scales reaching above the vertex. Thorax chocolate. Abdomen warm buff. Pectus warm buff, with a long narrow (1 mm.  $\times$  0.25 mm.) patch of fuscous black scales on the mesothorax, immediately below base of hindwings. Venter warm buff. Legs pinkish buff, shaded with chocolate. Forewings with costa deeply bowed; chocolate, with a few fuscous black scales intermixed; and sometimes massed just beyond antemedial fascia; an oblique pinkish buff antemedial fascia from costa at one-fourth to inner margin at one-third; an ill-defined, somewhat triangular area (base on costa, apex on inner margin) of pinkish buff scaling, degraded in varying degrees by intermixture with chocolate; an irregularly serrated pinkish buff subterminal fascia with a sharp kink below costa, then roughly parallel with termen; fringe pinkish buff with a chocolate

line through it. Hindwing light buff, heavily suffused with fuscous. Underside fuscous to fuscous black, except a broad strip along proximal two-thirds of costa and another along inner margin of forewing, and also along proximal third of hindwing.

Expanse : 20 mm.

♀. Similar, but generally less rich in colour ; wings somewhat larger, costa less bowed ; chief colour more vinaceous brown than chocolate.

Expanse : 23-24 mm.

Holotype ♂ and allotype ♀. Upolu : Malololelei, 21.iv.1925.

Paratypes. Upolu : Malololelei, 1 ♀, 2.vii.1924 (Armstrong) ; 7 ♂♂, 5 ♀♀, 22, 24, 25.ii., vii.1924, 21.iv.1925.

#### 143. *Cryptoblabes proleucella* Hampson.

*Cryptoblabes proleucella* Hampson, *Fauna Brit. Ind., Moths.* iv, p. 105, 1896.

Manua : Tau, 1 ♀, 27.ix.1923, ex cocoon on cane leaf (Swezey).

Much more material is needed of this and other *Phycitinae*. There is a species *Thiallela endochralis* Hampson, which, if it really differs from *Cryptoblabes proleucella*, is so like it that with the small amount of material available I find it difficult to say to which the Samoan specimen belongs.

#### 144. *Cryptoblabes elaeothrepta*, sp. n. (Plate XIV, figs. 7, 8).

♀. Vinaceous cinnamon, legs and forewings shaded with fuscous to fuscous black. Forewing with a fuscous black patch on costa at base, the distal half of the wing shaded with drab to fuscous, with some fuscous black irroration ; inner edge of shaded area deeply bowed (concavity basad) ; a break in the shading subterminally, leaving a slightly wavy fascia of ground-colour ; a terminal series of ill-defined fuscous black interneural dots ; fringe vinaceous buff. Hindwing and underside of both wings vinaceous buff.

Expanse : 20 mm.

Holotype ♀. Upolu : Apia, 19.x.1924.

Paratype ♀. Upolu : Mulifanua, 9.vi.1924.

#### 145. *Cryptoblabes trabeata* Meyrick.

*Cryptoblabes trabeata* Meyrick, *Exot. Microlep.*, iv, p. 239, 1932.

Upolu : Apia, 2 ♀♀, 1889 (Lister) ; Malololelei, 3 ♂♂, 1 ♀, 23, 24,



26.vi., 2.vii.1924 (Armstrong) ; 6 ♂♂, 5 ♀♀, 23, 25.ii., 25, 28.vi., vii.1924, 21.iv.1925.

Tutuila : E. end of island, 1,070 feet, 1 ♂, 21.vi.1918 (Kellers).

This species resembles *C. ferrealis* Lower (*Proc. Linn. Soc. N.S.W.*, 1901, p. 663), as far as I am able to judge by a coloured sketch in the British Museum collection. We have no specimens.

#### 146. *Cryptoblables plagioleuca* Turner.

*Cryptoblables plagioleuca* Turner, *Proc. Roy. Soc. Queensland*, xviii, p. 150, 1904.

Upolu : Apia, 1 ♀, 13.ix.1923 (Swezey and Wilder).

#### 147. *Cryptoblables spodopetina*, sp. n. (Plate XIII, figs. 10, 11).

♀. Palpus vinaceous russet shaded with fuscous and irrorated with pale drab grey. Antenna fuscous fringed with pale drab grey. Head and thorax vinaceous russet. Abdomen brownish olive. Pectus pale drab grey with some fuscous intermixed, fuscous in front. Venter white proximally to pale drab grey distally, terminal tuft ochraceous buff. Foreleg fuscous, midleg vinaceous russet, hind leg pale drab grey shaded with brownish olive. Forewing vinaceous russet, densely dusted over with pale drab grey. Hindwing brownish olive to fuscous. Underside brownish olive to fuscous.

Expanse : 20 mm.

Holotype ♀. Upolu : Malololelei, 25.ii.1924.

#### 148. *Assara albicostalis* Walker.

*Assara albicostalis* Walker, *List Lep. Ins. B. M.*, xxvii, p. 80, 1863.

*Hyphantidium albicostale* Walker, Hampson in Ragonot, *Rom. Mém.*, viii, p. 73, pl. 25, fig. 14, 1901.

*Hyphantidium albicostale* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 134, 1915.

Samoa. 1 specimen (Henniger).

Not represented in the collections before me.

I feel some doubt as to the generic status of *A. albicostalis* as interpreted by Hampson and Rebel, who sink the genus *Assara* under *Hyphantidium*. I am not sure that the venation alone differs sufficiently to justify separation, but the

structure of the female genitalia is so utterly different that I prefer to keep the two genera separate. An examination of the male genitalia is necessary, and this must wait until we can obtain males of *Hyphantidium sericarium* Scott, of which we possess only three females, although it is a pest in Australia.

#### 149. *Oligochroa leucophaeella* Zeller.

*Pempelia* (*Salebria*) *leucophaeella* Zeller, *Stett. ent. Zeit.*, xxviii, p. 390, 1867.

*Oligochroa leucophaeella* Zeller, Ragonot, *Rom. Mém.*, vii, p. 378, pl. 12, fig. 15, 1893.

*Oligochroa leucophaeella* Zeller, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 134, 1915.

Upolu: 1 ♀ (Friederichs).

Not represented in the material under review.

#### 150. *Etiella zinckenella* Treitschke.

*Phycis zinckenella* Treitschke, *Schmett. Eur.*, ix, 1, p. 201, 1832.

Upolu: Apia, 1 ♂, 14.ix.1923 (Swezey and Wilder).

The larva damages various Leguminosae.

#### 151. *Calguia defiguralis* Walker (Plate XIII, fig. 7).

*Calguia defiguralis* Walker, *List Lep. Ins. B. M.*, xxvii, p. 83, 1863.

Upolu: Apia, 1 ♂, 14.ix.1923 (Swezey and Wilder).

#### 152. *Hypsipyla swezeyi*, sp. n. (Plate XIII, figs. 8, 9).

♀. Fuscous, sparsely streaked with pale drab grey. Markings so indistinct as to make their accurate description difficult. A wavy antemedial fascia of pale drab grey scales, emphasised by narrow strips of plain fuscous ground-colour on each side; a subterminal series of fuscous dashes between the veins, each edged distally with pale drab grey scales; each vein with an indistinct streak of pale drab grey close below it before the termen. Hindwing pale drab grey, lightly edged with fuscous on costa and at termen; a drab line through the fringe.

Expanse: 27 mm.

Holotype ♂. Upolu: Apia, 14.ix.1923 (Swezey and Wilder).

153. *Rhodophaea acrobasella* Rebel.

*Rhodophaea acrobasella* Rebel, 2 *Beilage Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 134, pl. 1, fig. 10, 1915.

Upolu : Apia, several ♀♀, x., at light (Friederichs) ; Malololelei, 1 ♀, 25.vi.1924.

## EPIPASCHINAE.

154. *Locastra ardua* Swinhoe.

*Locastra ardua* Swinhoe, *Ann. Mag. Nat. Hist.* (7), ix, p. 181, 1902.

*Locastra drucei* Bethune-Baker, *Proc. Zool. Soc. Lond.*, 1905, p. 94, pl. 8, fig. 8.

Upolu : Malololelei, 1 ♀, 21.iv.1925.

155. *Odontopaschia stephanuchra*, sp. n.

(Plate XI, figs. 9, 10 ; Plate XIII, fig. 5).

♂. Palpus warm buff, third segment on inner side tipped with fuscous. Antenna stout at base, tapering distally, a small backwardly and inwardly directed hook at base of shaft, honey yellow, the shaft with warm buff scales. Head citrine with a few olivaceous black scales. Thorax citrine, the tegulae with some long olivaceous black scales behind, metathorax with some ferruginous scales. Abdomen, pectus and venter warm buff. Legs warm buff, with some fuscous shading, most pronounced on tarsi. Forewing with proximal two-thirds citrine mixed with fuscous and ferruginous, distal third warm buff with some scattered citrine, fuscous and ferruginous scaling ; a crenate warm buff antemedial fascia, broad and with indications of citrine and fuscous intermixture ; on the inner margin before it a prominent tuft of olivaceous black scales with a brilliant bronze sheen ; in the middle of the wing, its straight edge lying obliquely in the cell not quite parallel with costa, a prominent tuft of olivaceous black scales, with a purple sheen ; the body of the tuft is of flat broad raised scales, from under which arise long narrow scales, the proximal ones warm buff, the distal ones olivaceous black ; at upper angle of cell another spreading tuft of long raised, olivaceous black scales. Hindwing light buff, lightly shaded with fuscous. Underside light buff, with scattered fuscous shading, the hindwing with a fuscous spot on discocellulars.

Expanse : 22 mm.

Holotype ♂ and paratype ♂. Upolu : Apia, 1,000 feet, x.1925.

Both specimens seem to have suffered through being relaxed for setting, and the citrine colouring gives one the impression that it may have been a rich olive green, as already much of it has faded to a yellowish colour.

#### ENDOTRICHINAE.

##### 156. *Doththa mesenterialis* Walker.

*Doththa mesenterialis* Walker, *List. Lep. Ins. B. M.*, xvii, p. 285, 1859.

*Endotricha mesenterialis* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 134, 1915.

Upolu : Apia, 2 ♀♀ (Friederichs) ; 1 ♂, 13.ix.1923 (Swezey and Wilder) ; 1 ♂, 1 ♀, 28.i., 24.x.1924.

There are certain species hitherto placed by Hampson in scattered positions in the genus *Endotricha*, possessing in the male sex several characters which show them to be closely related. With the exception of the widely distributed *Doththa mesenterialis*, these species are I believe confined to islands, and it was the discovery of several apparently new species in the islands of the Gulf of Guinea that first drew my attention to this fact. I propose therefore, for the purpose of this paper, to revive Walker's genus *Doththa* (type : *D. mesenterialis* Walker) for these species, and I hope later to investigate the other species and their geographical distribution.

##### 157. *Doththa plinthopa* Meyrick.

*Endotricha plinthopa* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 214.

Upolu : Malololelei, 1 ♂, 2.vii.1924 (Armstrong) ; 3 ♂♂, 5 ♀♀, 24, 25.ii., 22.iii.1924.

Tutuila : 1 ♂ (Kellers) ; Pago Pago, 2 ♀♀, i., ii.1924 (Steffany).

##### 158. *Trichophysetis neophyla* Meyrick (Plate XV, figs. 5, 6).

*Trichophysetis neophyla* Meyrick, *Trans. Ent. Soc. Lond.*, 1884, p. 287.

♀. Palpus ochraceous orange. Antenna light buff, shaft white-scaled. Head and thorax white. Abdomen (tergum) drab. Pectus white. Venter tilleul buff. Legs tilleul buff, fore tibia shaded with ochraceous orange. Fore-wing light drab, the costa with traces of ochraceous orange ; a narrow, straight, oblique, ochraceous orange sub-basal fascia ; antemedial fascia sharply oblique



medio-terminad from just before middle of costa, white outlined with ochraceous orange, sharply angled just before discocellulars, then sharply oblique to inner margin at about one-third, fuscous mixed with ochraceous orange; a white discocellular lunule; a deeply bowed (concavity basad), wavy, postmedial fascia, more or less parallel with termen from vein  $M_2$  to inner margin, white, edged on each side with fuscous; before the apex a white lunulate mark, concave and edged with fuscous terminad, broadest costad. Hindwing light drab, with bowed, wavy, fuscous-outlined white antemedial and postmedial fasciae. Underside similar, slightly paler, with the postmedial fascia on both wings set considerably nearer the termen.

Expanse: 16 mm.

Neallotype ♀. Upolu: Apia, 29.iv.1924.

Meyrick described the ♂ only, and drew particular attention to its remarkable palpi, which are "clothed with very long fine dense hairs capable of depression and expansion, terminal joint concealed." Hampson (*Trans. Ent. Soc. Lond.*, 1896, p. 491) treats *T. neophyla* as a synonym of *T. cretacea* Butler, an action which Meyrick (*Exot. Microlep*, iv, p. 159, 1931) rightly considers unjustifiable.

#### Latagognoma, gen. n.

Proboscis well-developed; maxillary palpus dilated with scales; labial palpus upcurved, barely reaching vertex of head, third segment acuminate, nearly as long as second. Antenna of male stout, axinomerous.\* Legs smoothly scaled. Forewing with veins  $R_2$ ,  $R_3$  and  $R_4$  stalked,  $R_2$  arising at one-fourth,  $R_4$  at one-half,  $R_5$  absent;  $M_2$  stalked with  $M_3$  at one-fourth,  $Cu_1$  close to angle of cell,  $Cu_2$  fairly close to  $Cu_1$ . Hindwing with  $R_s$  arising from  $Sc$  about halfway between upper angle of cell and costa; cell length about one-fourth wing length; vein  $M_1$  from upper angle,  $M_2 + M_3$  coincident, arising from  $Cu_1$  at two-thirds,  $Cu_2$  from angle of cell.

Genotype. *Latagognoma dacryodes* Tams sp. n.

#### 159. *Latagognoma dacryodes*, sp. n. (Plate XVIII, figs. 15, 16).

Palpus claret brown, mixed with some warm buff. Antenna drab, the shaft shaded with claret brown. Head and thorax claret brown. Abdomen warm

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\* I have been unable to find a term to describe this type of antenna, in which each segment is shaped rather like an axe-head; the segments are placed close together, so that the whole antenna is rather like a sickle, with a thick dorsal edge and a thin ventral edge.



buff shaded with drab and fuscous. Pectus, venter and legs warm buff, streaked with claret brown. Forewing claret brown with some fuscous black irroration ; a prominent, wedge-shaped dash, warm buff degraded with claret brown, accentuated by fuscous black shading on each side, from costa tornad, its point only just reaching below lower margin of cell ; a fuscous black discocellular streak ; a distinct, but ill-defined subterminal fascia parallel with termen, consisting of irregular pinkish buff dots on the veins, accentuated before and beyond by fuscous black streaks on veins ; from costa at the subterminal fascia there is a diffuse fuscous black shade directed back towards the middle of the inner margin, which it fails to reach ; a fine fuscous black terminal line ; fringe claret brown, fuscous edged. Hindwing light buff, lightly suffused distally with fuscous, and streaked over its whole area with sparsely distributed long claret-brown scales (narrow, broader distally), all directed terminad. Underside light buff, lightly shaded with fuscous.

Expanse : 16 mm.

Holotype ♂. Upolu : Malololelei, 22.ii.1924.

Paratypes. Upolu : Malololelei, 1 ♂, 25.ii.1924.

Tutuila : Pago Pago, 1 ♂, 14.ix.1923 (Steffany).

#### PYRALINAE.

##### 160. *Pyrallis pictalis* Curtis.

*Asopia pictalis* Curtis, *Brit. Entom.*, descr. and pl. no. 503, 1834.

Upolu : Apia, 1 ♂, 21.ii.1925, bred from fowl-house refuse.

##### 161. *Pyrallis manihotalis* Guenée.

*Pyrallis manihotalis* Guenée, *Spec. Gén., Lép.*, viii, p. 121, 1854.

*Pyrallis manihotalis* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 135, 1915.

Samoa. 1 ♂ (Henniger).

Upolu : Apia, 4 ♀♀, ii., 16, 17.iii.1925, bred from fowl-house refuse.

#### HYDROCAMPINAE.

##### 162. *Nymphula foedalis* Guenée.

*Isopteryx foedalis* Guenée, *Spec. Gén., Lép.*, viii, p. 228, pl. 4, fig. 7, 1854.

*Nymphula foedalis* Guenée, Hampson, *Trans. Ent. Soc. Lond.*, 1897, p. 140.

Samoa. 1 ♂, 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Malololelei, 1 ♀, 25.ii.1924.

163. *Cataclysta dialitha*, sp. n. (Plate XVII, fig. 6).

♂. Palpus light buff, first segment and proximal half of second fuscous. Antenna, head, thorax, abdomen and legs light buff. Forewing white; proximal half of costa broadly fuscous, distal half light buff; a patch of light buff at base of wing, edged distad by a fuscous line from costa at one-fourth to inner margin at one-sixth, concave tornad; distal third of wing mostly light orange yellow or buff yellow, with two white wedges from costa reaching as far as vein  $Cu_1$  (tornad), both with their proximal edges fuscous, only the distal one fuscous distally; a semicircle reaching from just before middle of inner margin to tornus, its periphery touching lower margin of cell, fuscous on the white ground of the wing, opalescent on the buff yellow distal part; within the semicircle a distinct fuscous V-shaped mark, point distad, one arm nearly parallel with inner margin; fringe light buff. Hindwing white; a patch of fuscous near base and inner margin; a short fuscous fascia at one-third, a longer one at one-half running towards anal angle, near which there is an irregular patch of buff yellow; terminal one-fourth of wing velvety fuscous black exhibiting four circular opalescent white spots; fringe fuscous, light buff at edge. Underside similar, markings less definite, forewing with proximal half lightly suffused with fuscous.

♀. Similar, slightly larger.

Expanse: 12–14 mm.

Holotype ♂ and allotype ♀. Savaii: Tuasivi, 9.ii.1924.

Paratypes. Savaii: Tuasivi, 2 ♂♂, 2 ♀♀, 9.ii.1924, 21.xi.1925.

164. *Baeoptila ellipes*, sp. n. (Plate XVII, fig. 5).

♀. Palpus white, dorsally shaded with fuscous black. Antenna, head, thorax and abdomen (tergum) fuscous black. Pectus and venter cartridge buff. Legs white; fore and mid legs with tibia fuscous black distally, tarsus at middle and tip; hind tibia with a fuscous band just before middle, and trace of fuscous distally, tarsus with a fuscous band at middle of first segment, and another at beginning of second segment. Forewing fuscous, pattern in white fasciae, broadly accentuated by fuscous black shading on each side; a white dash at middle of costa, a white lunule on discocellulars, with an indistinct extension to inner margin at two-thirds; a subterminal fascia oblique from costa at three-fourths through radial veins, then twice bowed (concavity basad) to tornus; termen slightly but sharply emarginate opposite the first bow in the subterminal

fascia, with the otherwise fuscous fringe white at that point. Hindwing fuscous, with four fuscous black bars and a subterminal fascia similar to that on forewing. Underside light buff up to subterminal fascia, the white and fuscous black markings more pronounced; fringes white.

Expanse: 8 mm.

♂. Similar.

Holotype ♀. Upolu: Malololelei, 28.vi.1924.

Allotype ♂. Tutuila: Amauli, 7.ix.1923 (Swezey).

Paratypes. Upolu: Malololelei, 3 ♀♀, 20, 28.vi.1924.

The material of the species of *Baeoptila* in our collections is insufficient to make possible a proper investigation of the genus. The Samoan species here described lacks one more radial vein than is the case in the type of the genus, *B. selenias* Turner, Queensland, and in *B. albipunctalis* Warren, Assam and Ceylon.

#### 165. *Ambia tendicularis* Rebel.

*Ambia tendicularis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 135, pl. 1, fig. 1, 1915.

*Ambia chrysogramma* Hampson, *Ann. Mag. Nat. Hist.* (8), xix, p. 459, 1917.

Upolu: Apia, 1 ♂ (Henniger); 1 ♀ (Friederichs); 2 ♂♂, 31.v.1924; Malololelei, 1 ♀, 2.vii.1924 (Armstrong); Vailima, 1 ♂, 8.vi.1924.

Savaii: Safune, 1 ♂, 30.iv.1924 (Bryan); Fagamalo, 2 ♂♂, 3.viii.1924, xi.1925; Tuasivi, 1 ♂, 1 ♀, 9.ii.1924.

Tutuila: Pago Pago, 1 ♂, 1 ♀, v.1896 (de la Garde); 1 ♀, 9.ix.1923 (Swezey); 1 ♂, 1 ♀, 14.xii.1925.; Amauli, 1 ♂, 9.ix.1923 (Swezey).

#### 166. *Ambia schistochaeta*, sp. n. (Plate XV, fig. 8).

♂. Palpus white, tinged with orange buff, the second segment shaded dorsally and distally with fuscous black, the third with a trace of fuscous black ventrally at two-thirds. Antenna "schistochaetous," i.e., with each segment bearing a pair of plumose pectinations on each side, cartridge buff, a trace of fuscous black at base. Head white, frons orange buff with fuscous black shading. Thorax white, anterior half shaded with fuscous black, tegula tipped with fuscous black behind as well as in front, and some fuscous black shading on metathorax. Abdomen (tergum) white shaded with orange buff and slight traces of fuscous black. Pectus and venter white, the venter with an oblique

lateral stripe at middle. Legs white; fore coxa, femur and tibia dorsally fuscous black, mid leg fuscous black at femoro-tibial and tibio-tarsal joints only, hind leg fuscous black at tibio-tarsal joint.

Forewing white, with a brand on costa near middle, and with somewhat irregularly wavy fasciae parallel with termen; sub-basal fascia orange buff outlined with fuscous black; antemedial fuscous black; postmedial white tinged with buff yellow near costa and between cell and inner margin, outlined in fuscous black; subterminal fascia fuscous black, with a projection to middle of termen; along the termen a fairly wide strip of buff yellow, interrupted below wing-apex, at middle and at tornus with fuscous black. Hindwing colouring and pattern similar. Underside white, with only traces of the upperside pattern marked out in fuscous black.

Expanse: 16 mm.

Holotype ♂. Tutuila: Pago Pago, 12.viii.1925.

### 167. *Oligostigma villidalis* Walker.

*Oligostigma villidalis* Walker, *List. Lep. Ins. B. M.*, xvii, p. 435, 1859.

Upolu: Vailima, 2 ♀♀, 3.vi.1924, 2.i.1925.

Tutuila: Leone, 11.viii.1925.

### 168. *Parthenodes eugethes*, sp. n. (Plate XV, fig. 7).

♀. Palpus white, a trace of fuscous dorsally. Antenna honey yellow, shaft white-scaled, dotted with fuscous. Head white, fuscous hair-scales occipitally. Thorax xanthine orange, patagium with outer half white, inner half xanthine orange. Abdomen (tergum) white, a dash of xanthine orange at middle of first segment, a semi-circular patch of xanthine orange on second segment distally, remaining segments, except the terminal two, shaded with old gold. Pectus and venter white. Legs white, fore and mid legs with distal half of femur, proximal half of tibia, proximal half of tarsal first segment, and the whole of tarsal segments two to five, fuscous; fuscous on fore tibia extends down entire outer side. Forewing white, glossy; sub-basal and antemedial fasciae xanthine orange, forming a Y-shaped figure across wing-base, antemedial deeply bowed (concavity terminad); a large xanthine orange reniform spot at end of cell; a curiously shaped postmedial fascia (cf. figure), xanthine orange edged in places



with fuscous, with an extension to middle of termen and thence along termen to apex; fringe white, except at middle of termen and apex. Hindwing white, glossy; a xanthine orange postmedial fascia from vein  $M_3$  to anal angle, edged distally with fuscous, longitudinally bisected, between veins  $M_2$  and  $A_1$ , by a broad streak of rich velvety black, the scales having a bronze sheen at some angles. Underside entirely white, glossy.

Expanse: 38 mm.

♂. Similar, smaller.

Expanse: 22–30 mm.

Holotype ♀. Upolu: Malololelei, 21.iv.1925.

Allotype ♂. Upolu: Malololelei, 24.ii.1924.

Paratypes. Upolu: Malololelei, 1 ♂, 1.vii.1924 (Armstrong).

Tutuila: Pago Pago, 1 ♂, ii.1924 (Steffany).

### 169. *Dracaenura agramma* Meyrick.

*Dracaenura agramma* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 229.

*Dracaenura agramma* Meyrick, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 430, 1910; Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 3 ♂♂, iii.–viii.1921 (O'Connor); 3 ♂♂, 1 ♀, including type ♂ and allotype ♀ (Mathew).

Upolu: Apia, 1 ♂ (Lister); 2 ♂♂, 1 ♀, v., vii.1896 (de la Garde); 2 ♂♂, 1 ♀, 24.xii.1922, 4.v.1924 (Armstrong); 2 ♂♂, 13.ix.1923 (Swezey and Wilder); 1 ♂, 1 ♀, 27.i.1924; Malololelei, 1 ♀, 24.vi.1924 (Armstrong); 2 ♂♂, 7, 11.vii.1925 (Wilder); 1 ♀, 26.iv.1924 (Bryan); 5 ♂♂, 5 ♀♀, 22–25.ii., 25, 28.vi.1924, 21.iv.1925; Malifa, 16 ♂♂♀♀, 28.v–7.viii.1905 (Rechinger); Vailima, 1 ♂, 14.ix.1922 (Armstrong); 2 ♂♂, 13.ix.1923 (Swezey and Wilder); 3 ♂♂, 29.iii., 19.iv.1924; Mt. Vaea, 3 ♂♂, 1 ♀, 25.iv.1924 (Bryan); Tuaefu, 1 ♂, 2 ♀♀, 16.ix.1923 (Swezey and Wilder); Leulumoega, 1 ♂, 14.ix.1923 (Swezey and Wilder).

Savaii: Fagamalo, 1 ♂, 3.viii.1924; Tuasivi, 1 ♀, 8.ii.1924.

Tutuila: 2 ♀♀, on board S. Y. "Valhalla," 22.iv.1903 (Nicoll); 5 ♂♂, 2 ♀♀, iv., xii.1918 (Kellers); Pago Pago, 4 ♂♂, 10 ♀♀, i., ii.1924 (Steffany), 1 ♂, 2 ♀♀, 10.ix.1923 (Swezey); Leone Rd., 2 ♂♂, 6 ♀♀, 22.iii.1926 (Judd); Amauli, 6 ♂♂, 3 ♀♀, 6, 7, 9.ix.1923 (Swezey); Afono Trail, 1 ♂, 6.ix.1923 (Swezey).

Several specimens among those recorded above have the margins of the



wings and the distal third of the abdomen suffused with fuscous. I can so far find no structural differences between these somewhat striking variants and the typical *D. agramma*, but as the variety seems prevalent I propose to give it the name *D. agramma* ab. *dolia* ab. nov.

170. *Dracaenura adela*, sp. nov. (Plate XV, fig. 3).

♀. Palpus fuscous, first segment and proximal half second segment white ventrally. Antenna warm buff, dotted with fuscous. Head light buff to warm buff. Thorax light buff, tinged with fuscous, patagium warm buff inwardly, fuscous outwardly, tegula fuscous anteriorly. Abdomen light buff. Pectus and venter light buff. Legs light buff, fore tibia fuscous, fore and mid femora tipped with fuscous. Forewing naphthalene yellow, glossy, semi-translucent, exhibiting a sort of metallic old gold appearance; costa broadly fuscous; a fuscous dot just beyond middle of cell, and a fuscous discocellular lunule; an indistinct, straight, fuscous antemedial fascia at right angles to inner margin; a wavy fuscous postmedial fascia, its direction parallel with termen. Hindwing naphthalene yellow, translucent, slightly suffused with fuscous over distal third; a fuscous discocellular lunule; a fuscous postmedial fascia, converging towards termen as it approaches anal angle. Underside similar to upperside, without heavy fuscous scaling along costa.

♂. Similar.

Expanse: 23–24 mm.

Holotype ♀. Upolu: Malololelei, 31.xi.1924.

Allotype ♂. Savaii: Safune, 15.v.1924 (Bryan).

171. *Tatobotys biannulalis* Walker.

*Botys biannulalis* Walker, *List Lep. Ins. B. M.*, xxxiv, p. 1439, 1865.

Upolu: Apia, 1 ♀, 13.ix.1923 (Swezey and Wilder); Malololelei, 1 ♀, 28.vi.1924.

172. *Bradina semnopa* Meyrick.

*Trematarcha semnopa* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 234.

Samoa. 3 ♀♀, iii.–viii.1921 (O'Connor).

Upolu: Apia, 1 ♂, 1 ♀, v., vii.1896 (de la Garde); 2 ♂♂, 2 ♀♀, 13, 14.ix.1923 (Swezey and Wilder); 4 ♂♂, 2 ♀♀, 27.i., ii., 10.ii., 7.iii., 4.xii.1924; Malololelei, 1 ♂, 10.vii.1922 (Armstrong); Aleipata, 1 ♂, 8.iv.1924; Vailima, 1 ♀, 14.ix.1922

(Armstrong); Tuaefu, 1 ♂, 1 ♀, 16.ix.1923 (Swezey and Wilder); Leulumoega, 1 ♂, 14.ix.1923 (Swezey and Wilder).

Savaii: Salailua, 1 ♀, 12.viii.1924; Safune, 1 ♂, 1.v.1924 (Bryan); Tuasivi, 1 ♂, 1 ♀, 8.ii.1924.

Tutuila: Leone Rd., 1 ♀, 22.iii.1926 (Judd).

### 173. *Bradina leucura* Hampson.

*Bradina leucura* Hampson, *Trans. Ent. Soc. Lond.*, 1897, p. 200.

*Bradina leucura* Hampson, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 151, 1915.

Samoa. 1 ♀ (Friederichs).

Upolu: Malifa, 1 specimen (Rechinger).

Not represented in the collections before me.

### 174. *Bradina chlorionalis*, sp. nov. (Plate XV, fig. 4).

♂. Palpus fuscous, first segment and proximal half of second segment white ventrally. Antenna buff yellow. Head fuscous. Thorax buff yellow shaded with fuscous on tegula anteriorly. Abdomen (tergum) buff yellow, anal tuft light buff. Pectus and venter buff yellow. Legs buff yellow, with some drab shading on femoro-tibial joints, more extensive on foreleg. Forewing glossy, with basal fourth buff yellow, remainder fuscous black with a blackish purple sheen. Hindwing similarly coloured, but with the buff yellow extending down inner margin to anal angle. Underside buff yellow, forewing with distal three-fourths degraded as a result of the showing through of dark colour of upperside; hindwing with this effect less pronounced.

♀. Similar.

Expanse: 30 mm.

Holotype ♂. Savaii: Fagamalo, 7.viii.1924.

Allotype ♀. Savaii: Safune, 1.v.1924 (Bryan).

Paratypes. Samoa. 1 ♂, iii.-viii.1921 (O'Connor).

Savaii: Safune, 3 ♂♂, 4 ♀♀, 30.iv., 1.v.1924 (Bryan); Fagamalo, 4 ♂♂, 7.viii.1924.

### 175. *Bradina pycnolopha*, sp. nov. (Plate XV, fig. 1).

♂. Palpus fuscous, first segment and proximal half of second segment white ventrally. Antenna light buff. Head with frons fuscous, vertex light buff.

Thorax white, patagium and tegula cartridge buff. Abdomen (tergum) proximal half white, distal half cartridge buff. Pectus white. Venter white proximally, cartridge buff distally. Legs cartridge buff, fore femur distally, and tibia almost entirely, fuscous. Forewing white, costa and termen with a cartridge buff tint at certain angles, costa tinged with ochraceous buff along edge. Hindwing white with a cartridge buff tint at certain angles. Underside similar, the costa and termen tinged with ochraceous buff.

Expanse : 28 mm.

♀. Similar, slightly smaller. Colour more generally cartridge buff than white, the termen of both wings shaded with drab.

Expanse : 26 mm.

Holotype ♂. Upolu : Malololelei, 21.iv.1925.

Allotype ♀. Upolu : Malololelei, 5.vii.1924.

Paratypes. Upolu : Apia, 1 ♂, 12.iii.1924 ; Malololelei, 2 ♂♂, 22, 27.vi.1924 (Armstrong) ; 4 ♀♀, vii., 7.vii.1925 (Wilder) ; 6 ♂♂, 8 ♀♀, 14, 23, 24.ii., 15.vi., 5.vii., 24.ix., 29.xi.1924, 22.iv.1925.

Savaii : 1 ♂, 21.xi.1925 ; Safune, 2 ♂♂, 1 ♀, rain forest, 2,000–4,000 feet, 3.v.1924 (Bryan).

#### 176. *Bradina leptolopha*, sp. nov. (Plate XV, fig. 2).

♂. Palpus fuscous, first segment and proximal half of second segment white ventrally. Antenna warm buff. Head pale olive buff, thorax white tinged with ivory yellow, tegula in front shaded with fuscous. Abdomen, pectus and venter white tinged with ivory yellow. Legs white tinged with ivory yellow, fore tibia shaded with drab. Forewing translucent, glossy, ivory yellow ; costa lightly shaded with fuscous ; discocellular lunule faintly indicated in fuscous. Hindwing translucent, glossy, ivory yellow. Underside similar.

Expanse : 30 mm.

Holotype ♂. Upolu : Malololelei, 22.vi.1924 (Armstrong).

Paratypes. Upolu : Malololelei, 2 ♂♂, 26.iv.1924 (Bryan) ; 1 ♂, 31.xi.1924.

Savaii : Safune, 1 ♂, rain forest, 2,000–4,000 feet, 3.v.1924 (Bryan).

#### 177. *Bradina acrospila* Meyrick.

*Epichronistis acrospila* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 261.

Upolu : Apia, 1 ♀, 23.iii.1924 (Armstrong) ; Aleipata, 3 ♀♀, 8, 10.iv.1924.

178. *Bradina modestalis* Lederer.

*Erilita modestalis* Lederer, *Wien. Ent. Monatschr.*, vii, p. 426, pl. 16, fig. 3, 1863.

Samoa. 3 ♀♀, iii.-viii.1921 (O'Connor).

179. *Bradina neuralis* Hampson.

*Bradina neuralis* Hampson, *Ann. Mag. Nat. Hist.* (7), xix, p. 4, 1907.

*Bradina neuralis* Hampson, *Rebel*, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 135, 1915.

Upolu : Apia, 3 ♂♂, 4 ♀♀, 29.iii., 1.vi.1924 ; Vailima, 5 ♂♂, 1 ♀, 24.v.1924, 12.xii.1925 ; Mt. Vaea, 2 ♂♂, 1 ♀, 1,100 feet, 25.iv.1924 (Bryan).

Tutuila : Pago Pago, 1 ♂ (type), v. 1896 (de la Garde) ; Afono Trail, 1 ♂, 6.ix.1923 (Swezey).

180. *Bradina parbattoides*, sp. n. (Plate VI, fig. 26).

♂ and ♀. Palpus fuscous, first and second segments light buff proximally. Antenna warm buff, dotted with fuscous. Head fuscous, light buff occipitally. Thorax and abdomen light buff shaded with fuscous. Pectus fuscous in front, otherwise light buff shaded with fuscous, venter light buff. Legs fuscous, tibiae and tarsal segments tipped with light buff, hind tibia proximally light buff as well as at tip. Forewing glossy, semi-translucent, tinged with naphthalene yellow, heavily mottled with fuscous with a blackish purple sheen, leaving prominent fasciae of ground-colour ; a short, broad, wavy antemedial fascia ; a prominent black spot in middle of cell, and another, slightly larger and almost reniform, at end of cell ; postmedial fascia broad, wavy ; veins streaked terminally with naphthalene yellow ; fringe fuscous with naphthalene yellow streaks interneurally and at vein ends. Hindwing naphthalene yellow, shaded distally with fuscous, but leaving a wavy broad postmedial fascia of ground-colour, the fuscous shading before it being very slight ; a fuscous discocellular lunule ; fringe like that of forewing. Underside similar to upperside, smoother.

Expanse : 36 mm.

Holotype ♂. Upolu : Malololelei, 18.vi.1924.

Allotype ♀. Upolu : Malololelei, 24.vi.1924.

Paratype ♀. Upolu : Malololelei, 9.vii.1924.

181. *Diathrausta lypera*, sp. nov. (Plate XVII, fig. 4).

Labial palpus with third segment cartridge buff, palpus tipped with cartridge buff. Antenna cartridge buff at base only. Head with lower part of frons edged with cartridge buff. Foreleg with tibia outwardly white, tarsus white. Mid leg with tibia *whitish* outwardly, tarsal segments tipped with white. Hind leg with tibia and tarsus white. Forewing with termen distinctly sinuate; a few scattered *whitish* scales in and below middle of cell; faint indications of a straight fuscous black antemedial fascia at right angles to inner margin; a similar post-medial fascia from costa at two-thirds to inner margin; fringe chequered with *whitish*. Hindwing fringe chequered with *whitish*. Underside with traces of scattered *whitish* scales.

Expanse: 16 mm.

Holotype ♀. Upolu: Malololelei, 25.iv.1924.

182. *Piletocera cyclopsila* Meyrick.

*Diplotyla cyclopsila* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 248.

*Piletocera cyclopsila* Meyrick, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 430, 1910.

*Piletocera cyclopsila* Meyrick, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 3 ♂♂, including type (Mathew); 2 ♂♂, 2 ♀♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 1 ♂, 1889 (Lister); 1 ♂, 13.ix.1923 (Swezey and Wilder); 1 ♂, 27.ii.1924; Malololelei, 1 ♀, 2.vii.1924 (Armstrong); 3 ♀♀, vii., 7.xi.1925 (Wilder); 10 ♂♂, 23 ♀♀, 22-25.ii., 21.vi., 8, 9.vii.1924, 21, 22.iv.1925; Vailima, 1 ♀, 14.ix.1922 (Armstrong); 1 ♀, 12.xii.1925; Utumapu, Lanutoo Berg (800 m.), Malifa, 2 ♂♂, 2 ♀♀, 23.vi., 6.viii.1905 (Rechinger).

Savaii: Safune, 1 ♂, 1 ♀, lowlands to 1,000 feet, 1.v.1924 (Bryan); 2 ♀♀, 2,000-4,000 feet, 3.v.1924 (Bryan); Tuasivi, 1 ♀, 8.ii.1924.

Tutuila: 1 ♂ (Kellers); Pago Pago, 14 ♂♂, 51 ♀♀, 14.ix., x.1923, i., ii.1924, 17, 20, 22.iii.1926 (Steffany); 1 ♀, 12.viii.1925.

183. *Piletocera steffanyi*, sp. nov. (Plate XVII, figs. 1, 2).

♂. Palpus fuscous degraded to drab on inner side and ventrally. Antenna with basal segment swollen, a kink at middle with a tuft of scales directed distad, another kink at three-fourths, with a similar tuft of scales; fuscous with a patch of drab grey at one-fourth. Head fuscous and drab. Thorax fuscous.



Abdomen (tergum) fuscous, some warm buff laterally, distal third swollen, white to cartridge buff, with bushy extrusible terminal tuft. Pectus light buff, with drab to fuscous in front. Venter light buff to cinnamon. Legs fuscous, with some light buff on inner side, tibiae and tarsal segments tipped with light buff. Forewing with anal vein deeply bowed (convexity costa), and inner margin modified, bearing a curved spreading tuft of fine hair-scales on the underside; fuscous with a blackish purple sheen; a round fuscous black spot in cell at two-thirds, a small patch of warm buff, then a large subquadrate fuscous black spot followed by another warm buff patch; a medial shade running from the larger spot to the inner margin; an erratic fuscous black postmedial fascia edged distad with warm buff (for its course, see figure). Hindwing light buff heavily suffused with fuscous on distal third, less heavily below cell along inner margin, with traces elsewhere; a large ill-defined spot on discocellulars; postmedial fascia with a course somewhat similar to that of forewing postmedial fascia; termen edged with light buff; fringe fuscous drab grey distally. Underside fuscous and light buff, markings prominent and similar in distribution to those of upperside.

♀. Similar, but without modified forewing inner margin and distal part of abdomen. Expanse: 30 mm.

Holotype ♂. Tutuila: Pago Pago, i.1924 (Steffany).

Allotype ♀. Upolu: Malololelei, 24.ii.1924.

Paratypes. Upolu: Malololelei, 1 ♀, 20.v.1922 (Armstrong); 1 ♀, 24.ii.1924, 21.iv.1926.

Tutuila: 1 ♀ (Kellers); Pago Pago, ♂, 1 ♀, i.1924 (Steffany).

#### 184. *Piletocera rechingeri*, sp. n. (Plate XVII, fig. 3).

♂. Palpus with first segment white, second segment hair brown dorsally, white ventrally, third segment hair brown. Antenna hair brown, a tuft of scales directed distad before the middle and another after. Head and thorax hair brown. Abdomen hair brown inclined to fuscous. Pectus drab grey and white. Venter light buff. Legs cartridge buff, femora and tibiae shaded with drab grey. Forewing hair brown; a round white spot in cell at two-thirds, a slightly larger oval white spot at discocellulars, with a hint of darker colour before the spots; postmedial fascia light buff, indistinct (for course cf. figure); fringe drab grey. Hindwing hair brown, with a hint of darker colour at the end of the cell; postmedial fascia of the same type as that on forewing, but even less

distinct ; fringe drab grey. Underside similar, with the dark marking in hindwing cell more pronounced.

Expanse : 26 mm.

♀. Darker, more inclined to fuscous with markings more emphasised.

Expanse : 26 mm.

Holotype ♂. Upolu : Apia, 14.ix.1923 (Swezey and Wilder).

Allotype ♀. Upolu : Apia, 30.iv.1924.

Paratypes. Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 2 ♀♀, 13, 14.ix.1923 (Swezey and Wilder) ; 1 ♂, 3 ♀♀, 7.ii., 30.v., 1, 3.vi.1924.

Tutuila : 1 ♀, on board S.Y. "Valhalla," 22.iv.1903 (Nicoll) ; Pago Pago, 1 ♂, 2 ♀♀, 14.ix.1923 ; i.1924 (Steffany) ; 1 ♂, 1 ♀, 22.iii.1926 (Judd).

[*Piletocera vestigialis* Warren.]

*Diploptyla vestigialis* Warren, *Ann. Mag. Nat. Hist.* (6), xvii, p. 144, 1896.

*Piletocera vestigialis* Warren, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 430, 1910 ; Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 1 specimen (Reincke).

Upolu : Malifa, ♂♂, ♀♀, 6-28.vi., 7.viii.1905 (Rechinger).

I believe that these specimens recorded by Rebel belong to the new species described above, *P. rechingeri*, as I cannot reconcile the latter with the description of any known species, but it certainly bears a resemblance to a drawing I have seen of *P. vestigialis*.

185. *Piletocera signiferalis* Wallengren.

*Isopteryx signiferalis* Wallengren, *Wien. Ent. Monatschr.*, iv, p. 175, 1860.

*Piletocera signiferalis* Wallengren, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 430, 1910.

*Piletocera signiferalis* Wallengren, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 1 ♂, 1 ♀, iii.-viii.1921 (O'Connor).

Upolu : Apia, 2 ♀♀, 18.v.1922, 4.v.1924 (Armstrong) ; 4 ♂♂, 5 ♀♀, 25.i., 5, 10.ii., 6, 8, 22.v., 9.vi., 1.vii.1924. ; Malololelei, 1 ♂, 29.xi.1924 ; Aleipata 1 ♂, 2 ♀♀, 5, 7.iv.1924 ; Motootua, 1 ♂ (Rechinger) ; Nuutele, 1 ♀, 8.iv.1924.

Savaii : Safune, 1 ♂, 30.iv.1924 (Bryan) ; Tuasivi, 3 ♂♂, 8.ii.1924.

Tutuila : 1 ♂ (Kellers) ; Pago Pago, 1 ♀, ii.1924 (Steffany) ; 1 ♀, 9.ix.1923 (Swezey) ; Amauli, 1 ♀, 6.ix.1923 (Swezey).

186. *Piletocera xanthosoma* Meyrick.

*Strepsimela xanthosoma* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 249.

*Piletocera xanthosoma* Meyrick, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 430, 1910.

*Piletocera xanthosoma* Meyrick, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 1 ♂, 1 ♀, type and allotype (Mathew).

Upolu : Apia, 1 ♂, 25.ii.1922 (Armstrong) ; Malololelei, 4 ♂♂, 2 ♀♀, 15, 22.ii., 12.iii., 5.vii.1924, 22.iii., 21.iv.1925 ; Mt. Vaea, 1 ♂, 1,100 feet, 25.iv.1924 (Bryan) ; Tuaeфу, 3 ♀♀, 16.ix.1923 (Swezey and Wilder).

Savaii : Safune, 1 ♂, 2 ♀♀, 1.v.1924 (Bryan).

Tutuila : 1 ♂, 1 ♀ (Kellers) ; Pago Pago, 1 ♀, v.1896 (de la Garde) ; 1 ♂, 9.ix.1923 (Swezey and Wilder) ; Amauli, 1 ♀, 6.ix.1923 (Swezey).

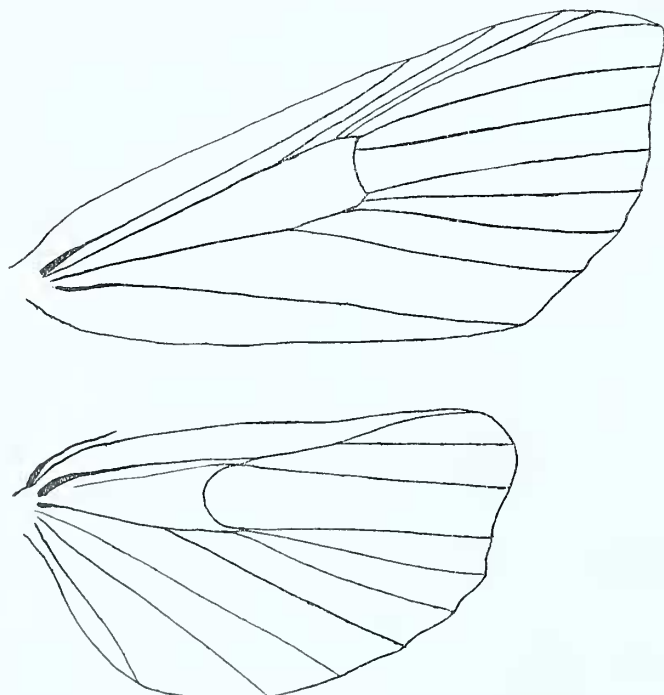
Manua : Tau, 2 ♀♀, 27.ix.1923 (Swezey).

187. *Piletocera albescens* Rebel (Plate XVI, figs. 10, 11 ; Text-fig. 7).

*Piletocera albescens* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 135, pl. 1, fig. 11, 1915.

Upolu : Apia, 1 ♂ (Henniger), 1 ♀ (Friederichs) ; Malololelei, 3 ♂♂, 1 ♀, 24, 25, 27.vi., 2.vii.1924 (Armstrong) ; 10 ♂♂, 20 ♀♀, 22-25.ii., 22.iii., 25.iv., 3, 21, 23, 24.vi., 5-7, 13.vii., 6, 12.viii.1924, 21, 22.iv.1925.

Text-fig. 7 shows vein  $R_2$  free from the cell, and not stalked with  $R_3 + R_4$ , as is usual in the HYDRO-CAMPINAE. It is for this reason that a closely allied species occurring in Fiji, has been assigned to the genus *Nacoleia* by Meyrick (*Nacoleia allocosma* Meyrick, subfamily PYRAUSTINAE).



TEXT-FIG. 7.—*Piletocera albescens* Rebel. Wing venation.

188. *Hoploscopa astrapias nauticorum*, subsp. n.

(Plate VI, fig. 21 ; Plate XVIII, fig. 4).

*Hoploscopa astrapias* Meyrick, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 136, pl. 1, fig. 12, 1915, non Meyrick.

♂ and ♀. Differs from the typical subspecies (*Hoploscopa astrapias astrapias* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 268)—Plate XVIII, fig. 2—noticeably in the following two features :

Lacks “ a short white or yellow median streak from base to one-fifth ” (Meyrick) ; in its place, there is a triangular patch of scales, warm sepia with a violet sheen.

The “ snow-white sinuate line, sometimes reduced to a row of dots, from costa close before apex to inner margin at four-fifths, terminated beneath by a short streak on the submedian fold ” (Meyrick), takes, in the Samoan subspecies, the form of a thin dentate *whitish* fascia, accentuated distad by warm sepia shading.

Holotype ♂. Upolu : Malololelei, 24.ii.1924.

Allotype ♀. Upolu : Malololelei, 21.iv.1925.

Paratypes. Upolu : Apia, 1 ♂, x.1925 ; Malololelei, 2 ♂♂, 2 ♀♀, iii.1923, 2.vii., 18.viii.1924 (Armstrong) ; 4 ♂♂, 10 ♂♂, 22, 24, 25.ii., 22.iii., 24, 28.vi., 18.viii., 29.xi.1924, 21.iv., 21.ix.1925.

In September, 1930, Miss L. E. Cheesman took on the island of Tanna, in the New Hebrides, a series of what appears to be another subspecies of *H. astrapias*, intermediate between the Samoan and the Fijian subspecies (cf. Plate XVIII, figs. 2, 3, 4). It lacks the sharply defined subterminal fascia of the typical subspecies, but this fascia is constantly more prominently white than in *H. a. nauticorum*, and exhibits a similar dentate appearance. I propose to call it *Hoploscopa astrapias anamesa*, subsp. n. (Plate XVIII, fig. 3).

189. *Clupeosoma lampra*, sp. nov. (Plate XV, fig. 9).

♀. Palpus chestnut brown, first segment and base of second segment ventrally, white. Antenna honey yellow, shaft with warm buff scaling, dotted with fuscous. Head light buff, lower edge of frons ochraceous orange. Thorax ochraceous orange. Abdomen warm buff. Pectus warm buff, some white, edged below with fuscous, in front. Venter warm buff. Forewing ochraceous



orange ; a slight fuscous mark on anal vein at one third, and another at middle of inner margin ; a fuscous discocellular streak ; a fuscous postmedial fascia, obtusely dentate basad on veins, almost parallel with termen from costa to vein  $M_2$ , then bowed (concavity basad) to vein  $Cu_2$ , then straight to tornus crossing anal vein at right angles ; termen marked at vein ends with fuscous ; fringe fuscous, streaked with warm buff. Hindwing pale orange yellow, shaded beyond the cell, from apex to vein  $Cu_2$ , with ochraceous orange ; a fuscous postmedial fascia almost straight and converging toward termen from vein  $M_1$  to just below vein  $Cu_2$ , here curved slightly basad before ending. Underside pale to light orange yellow.

Expanse : 22 mm.

Holotype ♀. Upolu : Malololelei, 24.ii.1924.

190. *Clupeosoma photina*, sp. nov. (Plate XV, fig. 10).

♀. Palpus fuscous black with a blackish green blue sheen, first segment and base of second segment ventrally, white. Antenna honey yellow, shaft clothed with warm buff scales. Head with vertex primrose yellow, frons cartridge buff edged below with fuscous black. Thorax primrose yellow tinged with orange yellow, patagium and tegula edged outwardly in front with fuscous black with a blackish green blue sheen. Abdomen light to warm buff. Pectus warm buff with some white on it in front. Venter warm buff. Foreleg with femur light yellow, tibia fuscous black with a dash of white proximally, and tipped with white, tarsus with first segment white, rest warm buff ; mid leg with femur warm buff, tibia white with a light orange yellow longitudinal streak edged inwardly on proximal half with fuscous black, tarsus warm buff with a little white. Forewing light orange yellow, deeper tinted round the margins, costal margin broadly edged with fuscous black with a blackish purple sheen ; a fuscous black dot at middle of upper margin of cell merging into costal stripe, and a larger, subtriangular spot on discocellulars also touching costal stripe ; a postmedial series of fuscous black dots (on veins), further from termen at costa than at inner margin, the first one or two not entirely separate and distinctly set basad. Hindwing light orange yellow, deeper tinted beyond the postmedial series of fuscous black dots lying on veins  $M_1$  to  $Cu_2$ . Underside light orange yellow.

Expanse : 22 mm.

Holotype ♀. Upolu : Malololelei, 24.ii.1924.



## PYRAUSTINAE.

191. *Sufetula choreutalis* Snellen.

*Pseudochoreutes choreutalis* Snellen, *Tijdschr. v. Ent.*, xxiii, p. 202, 1880; xxvi, pl. 6, figs. 8, 8a, 1883.

Samoa. 1 ♂, 1920 (O'Connor).

Upolu: 1 ♂, 23.vi.1924; Apia, 3 ♂♂, ii., 28.iv.1924, iv.1925.

192. *Sufetula hemiophthalma* Meyrick (Plate XVII, fig. 7).

*Diploipseustis hemiophthalma* Meyrick, *Trans. Ent. Soc. Lond.*, 1884, p. 286.

♂. Palpus cartridge buff, second segment shaded with clove brown. Antenna light buff with traces of clove brown. Head, thorax, abdomen, pectus and venter cartridge buff to light buff, with sometimes a trace of clove brown irroration, particularly at middle of venter. Legs cartridge buff, with clove brown shading, fore tibia and tarsus shaded, other legs with spots of shading on extremities of tibiae, on spurs, and on tarsal segments. Forewing cartridge buff to light buff, the costal margin broadly shaded with clove brown, leaving three small semicircles of ground-colour on costa between middle and postmedial fascia; a wavy antemedial fascia at one-third, outlined in clove brown; a prominent clove brown spot on discocellulars; a postmedial fascia outlined in clove brown, from costa at three-fourths to inner margin at three-fourths with a kink at vein  $M_2$  forming a projection terminad; a pre-terminal clove brown line, touching the termen at the veins; a very faint clove brown terminal edging, the fringe with a line through it and some patchy shading. Hindwing similar, without antemedial fascia. Underside like upperside. Sometimes some general fuscous irroration.

♀. Similar, sometimes larger and more densely shaded.

Expanse: 9–12 mm.

Upolu: Apia, 1 ♂, 31.v.1924; Malololelei, 2 ♂♂, 4 ♀♀, iv., 25, 28.vi.1924; Aleipata, 1 ♂, 1 ♀, xi.1924.

Savaii: Fagamalo, 2 ♂♂, viii.1924, xi.1925.

Tutuila: Pago Pago, 1 ♀, 14.xii.1925.

Meyrick (*Trans. Ent. Soc. Lond.*, 1884, p. 284) described the genus *Diploipseustis*, in which he included two species, *D. minima* Butler, originally *Cymoriza minima*, and a new species *D. hemiophthalma*. Hampson, in his Revision of the

ENDOTRICHINAE (*Trans. Ent. Soc. Lond.*, 1896, p. 489) cited as type of *Diplopseustis*, Walker's *Ambia* ? *perieresalis*, under which he sinks *Cymoriza minima* Butler. Later Hampson, in his Revision of the PYRAUSTINAE (*Proc. Zool. Soc. Lond.*, 1898, p. 614), placed *D. hemiophthalma* in *Sufetula*, where it appears to belong; it certainly seems more closely related to *S. sunidesalis* Walker than to *D. perieresalis* Walker, so I have followed Hampson. I originally described the Samoan material as new, as it did not seem to agree with Meyrick's description, but I have come to the conclusion, after examining Fijian examples identified by Meyrick as *D. hemiophthalma*, that the Samoan insect is the same species. I have retained my description of the pattern and colour, as, with the figure, it may prove useful in drawing attention to the points which are difficult to follow in comparing the insects with the description.

### 193. *Aulacoptera fuscinervalis* Swinhoe.

*Aulacophora fuscinervalis* Swinhoe, *Ann. Mag. Nat. Hist.* (6), xvi, p. 300, 1895.

Samoa. 1 ♀, 1920 (O'Connor).

The name *Aulacophora* as used by Swinhoe seems to be a *nomen nudum*; in any case it had been used previously in the Coleoptera (Chevrolet, 1834; Clark, 1865).

### 194. *Rehimena cissophora* Turner.

*Entephria cissophora* Turner, *Trans. Roy. Soc. S. Austral.*, xxxii, p. 88, 1908.

Upolu: Apia, 2 ♂♂, 13.iv.1924 (Armstrong); Aleipata, 1 ♀, 7.iv.1924; Vailima, 1 ♀, 2.i.1925; Mt. Vaea, 10, 25.iv.1924 (Bryan).

Savaii: Safune, 2 ♀♀, lowlands to 1,000 feet (Bryan).

### 195. *Hymenia recurvalis* Fabricius.

*Phalaena recurvalis* Fabricius, *Syst. Ent.*, p. 644, 1775.

*Phalaena Pyralis fascialis* Stoll in Cramer, *Uitl. Kapellen*, iv (34), p. 236 and index, pl. 398, fig. O, 1782.

Upolu: Apia, 3 ♂♂, 1 ♀, 11.iv.1922, 4, 6, 8.v.1924 (Armstrong); 2 ♂♂, 1 ♀, 13-15.ix.1923 (Wilder); 1 ♂, 1 ♀, 30.i., ix.1924; Malololelei, 3 ♂♂, 2 ♀♀, 23, 25.ii., 23, 25.vi., 5.vii.1924; Lalomanu, Aleipata, 1 ♂, xi.1924.

Savaii: Tuasivi, 1 ♂, 8.ii.1924.

Tutuila: Pago Pago, 1 ♂, ii.1924 (Steffany); Amauli, 1 ♀, 9.ix.1923 (Swezey).

196. *Eurrhynchos tricoloralis* Zeller.

*Botys tricoloralis* Zeller, *Lep. Micropt. Caffr.*, p. 31, 1852; *K. Svenska Vetensk. Acad. Handl.*, lxxiii, p. 31, 1854.

Samoa. 1 ♂.

Upolu : Apia, 1 ♂, 24.xii.1922 (Armstrong); 3 ♂♂, 1 ♀, ii., 25.iii., 21.iv., 19.vii.1924; Malololelei, 1 ♂, 8.v.1924.

Savaii : Tuasivi, 1 ♂, 9.ii.1924.

197. *Pagyda perlustralis* Rebel.

*Pagyda perlustralis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 137, pl. 1, fig. 9, 1915.

Upolu : Apia, 1 ♀ (Friederichs); Malololelei, 1 ♂, 1 ♀, 21.vi.1924, 21.iv.1925.

198. *Ercta ornatalis* Duponchel.

*Asopia ornatalis* Duponchel, in Godart, *H. N. Lépid. France*, viii (2), p. 207, pl. 223, fig. 8, 1832.

*Ercta ornatalis* Duponchel, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 137, 1915.

Samoa. 1 ♂ (Henniger).

Upolu : Apia, 1 ♀, ix.1924; Aleipata, 1 ♂, 8.iv.1924.

Savaii : Tuasivi, 1 ♂, 2 ♀♀, 8.ii.1924.

Tutuila : Pago Pago, 1 ♂, v.1896 (de la Garde).

199. *Cnaphalocrocis medinalis* Guenée.

*Salbia medinalis* Guenée, *Spec. Gén. Lép.*, viii, p. 201, 1854.

Upolu : Aleipata, 1 ♂, 1 ♀, 8, 10.iv.1924.

Tutuila : Amauli, 1 ♂, 6.ix.1923 (Swezey).

200. *Marasmia venialis* Walker.

*Asopia venialis* Walker, *List. Lep. Ins. B. M.*, xvii, p. 373, 1859.

*Marasmia venialis* Walker, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 137, 1915.

Upolu : Apia, 1 ♀ (Friederichs); 1 ♀, 28.x.1923 (Armstrong); 5 ♂♂, 4 ♀♀, ii., 10.ii., 31.v., 4.xii.1924; Malololelei, 4 ♀♀, 25.ii., vii., 5.vii.1924; Mt. Vaea, 1 ♀, 25.iv.1924 (Bryan); Tuaefu, 1 ♀, 16.ix.1923 (Swezey and Wilder).

Tutuila : Pago Pago, 1 ♀, i.1924 (Steffany); Amauli, 1 ♂, 1 ♀, 9.ix.1923 (Swezey).

201. *Marasmia trebiusalis* Walker.

*Botys trebiusalis* Walker, *List. Lep. Ins. B. M.*, xviii, p. 718, 1859.

*Epimima stereogona* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 236.

Upolu : Apia, 1 ♂, 1 ♀, 13.iv., 4.v.1924 (Armstrong) ; 2 ♂♂, 6 ♀♀, 16, 22, 31.v., 1.vii.1924 ; Malololelei, 1 ♀, 25.iv.1924 ; Aleipata, 1 ♂, 7.iv.1924 ; Mt. Vaea, 1 ♀, 1,100 feet, 25.iv.1924 (Bryan).

Savaii : Safune, 2 ♀♀, lowlands to 1,000 feet, 30.iv., 1.v.1924 (Bryan).

Tutuila : Pago Pago, 1 ♀, 12.viii.1925.

202. *Marasmia trapezalis* Guenée.

*Salbia trapezalis* Guenée, *Spec. Gén. Lép.*, viii, p. 200, 1854.

Upolu : Lalomanu (Aleipata), 2 ♀♀, xi.1924.

203. *Syngamia floridalis* Zeller.

*Stenia floridalis* Zeller, *Lep. Microptera Caffr.*, p. 60, 1852 ; *K. Svenska Vetensk. Acad. Handl.*, lxxiii, p. 60, 1854.

*Syngamia floridalis* Zeller, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 152, 1915.

Samoa. 1 ♂ (Friederichs).

Upolu : Apia, 1 ♀, 6.v.1924 (Armstrong) ; 1 ♂ ; Siumu, 1 ♀, 24.ii.1923 (Armstrong).

Tutuila : 1 ♂, 23.iv.1903 (Nicoll) ; Pago Pago, 1 ♂, 14.xii.1925 ; Amauli, 1 ♂, 1 ♀, 7.ix.1923 (Swezey).

204. *Leucophotis pulchra* Butler (Plate XVI, fig. 5).

*Leucophotis pulchra* Butler, *Trans. Ent. Soc. Lond.*, 1886, p. 426.

Upolu : Apia, 2 ♂♂, 10, 11.iii.1923 (Armstrong) ; Malololelei, 1 ♂, 1 ♀, 11.vii.1925 (Wilder) ; 3 ♂♂, 2 ♀♀, 24.ii., iv., 18.vi.1924, 1.i.1925.

205. *Phostria oconnori*, sp. n. (Plate VI, fig. 23 ; Plate XVI, fig. 7).

♂. Palpus with first segment white, hair brown at apex dorsally only, second segment hair brown, white ventrally for proximal one-fourth only, third

segment hair brown. Antenna honey yellow, the shaft clothed with light drab scales. Head and thorax warm buff to antimony yellow. Abdomen drab, warm buff over proximal third. Pectus light buff, white in front. Vertex light to warm buff. Legs with femora white shaded with light drab to hair brown; fore tibia with proximal third light buff, rest hair brown, tipped with white distally, mid tibia white shaded with light drab dorsally; hind tibia light buff; fore tarsus white, each segment tipped with hair brown to drab grey, mid and hind tarsi white tinged with light to warm buff. Forewing hair brown approaching fuscous, with a faint *purplish* sheen; a trace of warm buff and white at base; a wavy antemedial fascia ending in a white subtriangular patch on inner margin; a fuscous dot in cell at two-thirds, with a fuscous streak on discocellulars; a broad white postmedial fascia, oblique from costa at two-thirds to lower angle of cell, then wavy in a direction at right angles to inner margin, which it reaches at two-thirds; some white in fringe at tornus. Hindwing hair brown; a broad, slightly sinuous postmedial fascia; fringe white tinged with light buff towards wing-apex, a dark stripe running through its base. Underside forewing similar, but with hair brown extending beyond end of cell and so reducing breadth of postmedial fascia between costa and vein  $Cu_1$ ; hindwing with white spreading (below the cell) to wing-base, broken by traces of hair brown shading veins  $Cu_1$  and  $A_2$ .

Expanse: 36 mm.

♀. Similar, but with the forewing warm buff densely irrorated with fuscous to produce a snuff-brown effect; fasciae produced by reduction in irroration, with no trace of white; hindwing fuscous, with a much reduced buff fascia; fringe as in male. Underside pattern as in male, but underlying colour buff, warm in forewing, light in hindwing.

Expanse: 40 mm.

Holotype ♂. Upolu: Malololelei, 21.iv.1925.

Allotype ♀. Upolu: Malololelei, 2.vii.1924 (Armstrong).

Paratypes. Samoa. 1 ♂, 1 ♀, 1920 (O'Connor).

Upolu: Apia, 1 ♀, 13.ix.1923 (Swezey and Wilder); 1 ♂, 1 ♀, x.1925; Malololelei, 1 ♂, 1 ♀, 20.v.1922, 1.vii.1924 (Armstrong); 13 ♂♂, 7 ♀♀, 13, 22, 24.ii., 22.iii., 7.vii.1924, 21, 22.iv.1925.



206. *Nacoleia diemenalis* Guenée.

*Asopia diemenalis* Guenée, *Spec. Gén. Lép.*, viii, p. 203, 1854.

*Nacoleia diemenalis* Guenée, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 430, 1910; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 1 ♂, 2 ♀♀, 15, 16.v.1924 (Armstrong); 14 ♂♂, 5 ♀♀, 12, 14, 16-19.vi.1924; Lalomanu, Aleipata: 2 ♂♂, 1 ♀, xi.1924; Aleipata, 2 ♀♀, 8.iv., iv., v.1924.

Nuutele: 1 ♀, 8.iv.1924.

Savaii: Safune, 1 ♂, 30.iv.1924 (Bryan).

Tutuila: 1 ♀, vii.1917 (Kellers); 1 ♂, 1 ♀, v.1896 (de la Garde); Pago Pago, 2 ♀♀, 14.xii.1925.

A bean pest.

207. *Nacoleia octasema* Meyrick.

*Notarcha octasema* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 259.

Upolu: Apia, 2 ♂♂, 2 ♀♀, 19, 21, 23.v.1924; Malololelei, 1 ♀, 2.vii.1924 (Armstrong).

Tutuila.: 1 ♀, on board S.Y. "Valhalla," 22.iv.1903 (Nicoll); Pago Pago, 2 ♂♂, 1 ♀, ii.1924 (Steffany).

Manua: Tau, 2 ♂♂, ex banana, 13, 27.ix.1923 (Swezey and Wilder).

The dark red-brown larva makes webs among young bananas, especially high up in the space between the fruits. The larva eats through the skin and the young fruit dies, or, in less severe cases is left scabby and twisted. Often a whole bunch is spoilt, nothing being left but a few scarred and scabby fragments. The pupa is found in a web between the bananas. In *Bull. Ent. Res.*, xviii, p. 29, fig. 1, Hopkins illustrates the damage done by the larvae of this moth to bananas.

208. *Authaeretis exaereta*, sp. n. (Plate XIII, fig. 6; Plate XVI, fig. 8).

♂ and ♀. Palpus with first segment white, second drab to buff brown, a little white at base ventrally, third drab to buffy brown. Antenna honey brown, shaft clothed with avellaneous scales. Thorax drab, vinaceous buff posteriorly. Abdomen (tergum) light buff to vinaceous buff. Pectus and venter white. Legs white to cartridge buff, foreleg tinged with light buff, fore tibia with distal

half shaded with buffy brown, fore tarsal segments distally lightly shaded with drab. Forewing drab to buffy brown, costa shaded in the darker colour; a *whitish* ill-defined crenate antemedial fascia, edged terminad with buffy brown; a round spot in cell at three quarters, surrounded with *whitish* and with a *whitish* centre, and similar oval spot at end of discocellulars; a *whitish* subterminal fascia from just below costa to vein  $Cu_2$ , along  $Cu_2$  to below end of cell, then wavy to middle of inner margin, edged basad with buffy brown. Hindwing similar in colour, inner margin broadly *whitish*; traces of a discocellular spot; post-medial fascia similar in course to that on forewing. Underside *whitish*, with traces of weak shading of a greyish olive tint.

Expanse : 34 mm.

Holotype ♂, allotype ♀, 9 paratypes (7 ♂♂, 2 ♀♀).

Upolu : Malololelei, 5-7.vii.1924.

## 209. *Sylepta sabinusalis* Walker.

*Botys sabinusalis* Walker, *List Lep. Ins. B. M.*, xviii, p. 708, 1859.

Upolu : Apia, 1 ♀, 28.vi.1924.

Tutuila : Pago Pago, 2 ♂♂, ii.1924 (Steffany); 1 ♂, 1 ♀, 20, 21.ix., emerged 3, 4.x.1923, ex *Pipturus* (Swezey and Wilder); Amauli, 1 ♂, 6.ix.1923 (Swezey).

## 210. *Sylepta derogata* Fabricius.

*Phalaena derogata* Fabricius, *Syst. Ent.*, p. 641, 1775.

Upolu : Apia, 1 ♂, 12.iii.1923 (Armstrong); 1 ♂, 14.ix.1923 (Swezey and Wilder); 2 ♀♀, 8.iv., 17.vi.1924, 23.v.1925.

Savaii : Safune, 1 ♀, lowlands to 1,000 feet, 1.v.1924 (Bryan).

Tutuila : Pago Pago, 1 ♀, v.1896 (de la Garde).

One of two females brought back by Buxton and Hopkins bears a label : 23.v.1925, bred from the curled leaves of a common tree, *Hibiscus tiliaceus*.

## 211. *Sylepta commotes*, sp. n. (Plate XVI, fig. 6).

♀. Palpus fuscous. Antenna bone brown, shaft with fuscous scales. Head fuscous, behind antenna snuff brown to fuscous. Thorax fuscous with a

dull purplish black gloss. Abdomen (tergum) fuscous, darkening to fuscous black distally. Pectus warm buff, fuscous in front. Venter warm buff with some hair brown shading proximally on last few segments. Legs with femora warm buff with slight fuscous shading; tarsal segments blackish brown, tipped with warm buff; fore tibia blackish brown, with a warm buff transverse fascia medially and traces of warm buff distally; middle tibia shaded dorsally with blackish brown, distally tipped warm buff; hind tibia warm buff with some blackish-brown shading. Forewing deep slaty brown with a dull purplish black gloss, the pattern is fuscous black to blackish brown; an interrupted antemedial fascia; a dot in middle of cell, with a spot in discocellulars; a postmedial fascia (for course cf. figure) dentate on veins  $M_1$  to  $Cu_2$ ; a subterminal fascia emphasised interneurally; a pre-terminal series of prominent dots at vein-ends, with extensions into fringe, producing there a chequered effect. Hindwing light drab, densely suffused with fuscous, the postmedial and subterminal fasciae and the fringe chequering in denser shading. Underside light drab uniformly suffused with fuscous, the markings not prominently emphasised.

Expanse : 32–34 mm.

Holotype ♀. Upolu : Apia, ix.1924.

Paratype ♀. Upolu : Malololelei, x.1925.

## 212. *Agathodes rebeli*, sp. n. (Plate XVI, fig. 2).

*Agathodes ostentalis* Geyer, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 152, 1915, non Geyer.

♂ and ♀. Palpus xanthine orange. Antenna cinnamon brown, shaft with warm buff scales. Head light orange yellow, xanthine orange at sides of frons. Thorax xanthine orange. Abdomen with basal segment glossy white, the rest xanthine orange to amber brown, mixed with magenta or Indian lake, warm buff distally. Pectus glossy white. Venter glossy white, tinged over distal two-thirds with light orange yellow. Legs glossy white. Forewing with proximal two-thirds broadly glossy white, rest of wing light orange yellow tinged with xanthine orange, broken up by a broad irregular longitudinal patch of Indian lake through the distal two-thirds (for distribution of pattern see figure); parts of the Indian red patch are edged with opalescent white lines; a fine silvery white line before termen (not always present); fringe sometimes light orange yellow to xanthine orange, or Indian red. Hindwing light orange yellow. Underside light orange yellow.

Holotype ♂. Samoa. iii.–viii.1921 (O'Connor).

Allotype ♀. Upolu : Apia, 1 ♀, ix.1924.

Rebel in 1915 recorded a single ♀, taken by Friederichs, as *A. ostentalis* Geyer (cf. Plate XVI, fig. 1).

### 213. *Chloauges woodfordii* Butler.

*Chloauges woodfordii* Butler, *Ann. Mag. Nat. Hist.* (5), xv, p. 241, 1885.

Samoa. 1 ♂, 2 ♀♀, iii.–viii.1921 (O'Connor).

Not synonymous with *C. suralis* Lederer, as stated by Hampson (*Proc. Zool. Soc. Lond.*, 1898, p. 738). *C. suralis* is larger, and has much more rugged termina to the wings. The whole genus *Margaronia* needs investigating, as Hampson has distributed the green species in little batches at odd places throughout his arrangement. Quite apart from their general superficial resemblance, with the doubtful exception of *C. suralis*, *C. woodfordii* and possibly one or two others, the green species of *Margaronia* appear to me to form a perfectly homogeneous group, and I have therefore here kept them apart in the genus *Chloauges*, erected by Lederer in 1863 for *C. suralis*.

### 214. *Chloauges brunneomarginalis* Kenrick (Plate XVI, fig. 3).

*Glyphodes brunneomarginalis* Kenrick, *Proc. Zool. Soc. Lond.*, 1907, p. 84, pl. iv., fig. 176.

Upolu : Apia, 1 ♀, 18.v.1922 (Armstrong).

### 215. *Margaronia mysteris* Meyrick.

*Cydalima mysteris* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 223.

Upolu : Apia, 2 ♀♀, 29.iii., 19.ix.1922 (Armstrong) ; 2 ♂♂, 1 ♀, x.1925 ; Malololelei, 2 ♀♀, vii.1925 (Wilder) ; 4 ♂♂, 2 ♀♀, 24.ii., 6.vii.1924.

Tutuila : Pago Pago, 1 ♂, 1 ♀, 14.ix., x.1923 (Steffany) ; Amauli, 17.iii.1926 (Judd).

Rebel (2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, pp. 137, 138, 1915) has recorded one specimen (♀) from Apia (Friederichs) as *Caprinia conchylalis* Guenée, and one (♀) from Samoa (Henniger), as *Glyphodes laticostalis* Guenée. He

suggests, following E. Hering (*Stett. ent. Zeit.*, lxii, p. 240, 1901), that these two names are synonymous, and this seems not unlikely, but one cannot prove it without Guenée's types. Rebel cites *C. mysteris* Meyrick, as a synonym of *C. conchylalis* Guenée, but this can hardly be so if *conchylalis* = *laticostalis*, as there are certainly two species involved; in any case I am satisfied that the Samoan specimens agree with Meyrick's New Hebridean *C. mysteris*.

### 216. *Margaronia indica* Saunders.

*Eudiopetes indica* Saunders, *Trans. Ent. Soc. Lond.*, 1850-1851 (new series, i), p. 163, pl. 12, figs. 5-7, 1851.

*Glyphodes indica* Saunders, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 1 ♂, labelled "Navigators' Isles." 1 ♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 1 ♂, v.1896 (de la Garde); 1 ♀, 4.v.1924 (Armstrong); 1 ♂, 14.ix.1923 (Swezey and Wilder); 3 ♂♂, 2 ♀♀, 10.ii., 10.v., 25.viii., 1.ix., 2.xi.1924; Lalomanu, Aleipata, 1 ♀, xi.1924; Malifa and Vaimea, 4 specimens, vi.1905 (Rechinger).

Savaii: Safune, 1 ♂, 1 ♀, 30.iv., 3.v.1924 (Bryan).

Tutuila: 1 ♀, 23.iv.1903 (Nicoll); Pago Pago, 1 ♂, 6.ix.1923 (Swezey); 1 ♀, 14.xii.1925.

Manua: Tau, 1 ♂, 20.ii.1926 (Judd); 1 ♀, 27.ix.1923 (Swezey).

A cucumber pest in Samoa.

### 217. *Margaronia diplocyma* Hampson (Plate XVI, fig. 9).

*Glyphodes diplocyma* Hampson, *Ann. Mag. Nat. Hist.* (8), x, p. 570, 1912.

Tutuila: Pago Pago, 1 ♀, ii.1924 (Steffany).

### 218. *Margaronia oceanitis* Meyrick.

*Margarodes oceanitis* Meyrick, *Trans. Ent. Soc., Lond.*, 1886, p. 222.

*Glyphodes glauculalis* Guenée, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, p. 138, 1915, non Guenée.

Samoa. 1 ♀ (Henniger); 1 ♂, 1 ♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 1 ♂, 1 ♀ (Friederichs); 2 ♂♂, 3 ♀♀, 18.v.1922, 19, 24, 26.iii., 2.iv.1924 (Armstrong); 1 ♂, 5.iv.1925; Malololelei, 1 ♀, 24.ii.1924.

Tutuila: Pago Pago, 1 ♂, 1 ♀, x.1923, i.1924 (Steffany).



219. *Margaronia samoana* Swinhoe.

*Margaronia samoana* Swinhoe, *Ann. Mag. Nat. Hist.* (4), xviii, p. 414, 1906.

*Glyphodes itysalis* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910, non Walker.

*Glyphodes samoana* Swinhoe, Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 138, 1915.

Samoa. 1 ♀, type, no other data.

Upolu : Apia, 1 ♀ (Friederichs) ; 1 ♀, 13.ix.1923 (Swezey and Wilder) ; 1 ♂, 1 ♀, 30.v.1924, 7.viii.1925 ; Malololelei, 2 ♀♀, 24.ii., 21.vi.1924 ; Malifa, 1 ♂, 1 ♀, 6.vi., 6.viii.1905 (Rechinger).

Tutuila : Pago Pago, 1 ♂, 1 ♀, i.1924 (Steffany).

220. *Margaronia buxtoni*, sp. n. (Plate XVI, fig. 4).

♂. Palpus outwardly with first segment fuscous dorsally, white ventrally, second segment fuscous with proximal third ventrally white, third segment light orange yellow. Maxillary palpus proximally fuscous, distally light orange yellow. Antenna honey yellow, shaft with warm buff scales, but with the second fourth clothed with loose hair brown hair-scales. Head white, frons tinted with light orange yellow, with a medial fuscous stripe and the sides shaded with fuscous, vertex light orange yellow medially. Thorax white, patagium snuff brown outwardly, white medially, light orange yellow inwardly ; tegula shaded outwardly with snuff brown ; mesonotum and metanotum with a medial light orange yellow longitudinal stripe. Abdomen (tergum) white with a broad medial light orange yellow stripe ; anal tuft fuscous. Pectus and venter white. Foreleg light orange yellow, mid and hindlegs white to cartridge buff. Forewing white, opalescent, with an extensive pattern (see figure) in light orange yellow, xanthine orange, snuff brown and warm sepia ; the opalescent streak across middle of cell and that at discocellulars with a mixed pale turquoise green and pale caerulean blue sheen, the other opalescence (including the streak *before* the discocellulars) with a mixed pale violet blue and purple sheen ; fringe white, fuscous at wing-apex. Hindwing similarly coloured, opalescence pale violet blue and purple, pattern (see figure) confined to distal third ; fringe white the section about vein  $Cu_2$  to  $A_1$  fuscous black at its base, edged with fuscous, with a silvery gloss. Underside white, those parts opalescent on upper side correspondingly opalescent, all the opalescence being mixed pale violet blue and purple.

Expanse : 29 mm.

♀. Similar, with simple antennae and no anal tuft.

Holotype ♂. Upolu : Malololelei, 6.vii.1924.

Allotype ♀. Upolu : Malololelei, 22.ii.1924.

Paratypes. Upolu : Malololelei, 1 ♂, 1 ♀, 6, 7.vii.1924.

Tutuila : Pago Pago, 1 ♂, 1 fragment, x.1923 (Steffany).

### 221. *Margaronia deliciosa* Butler.

*Glyphodes deliciosa* Butler, *Ann. Mag. Nat. Hist.* (5), xx, p. 118, 1887.

Manua : Tau, 1 ♂, 23.ii.1926 (Judd).

### 222. *Margaronia multilinealis* Kenrick.

*Glyphodes multilinealis* Kenrick, *Proc. Zool. Soc. Lond.*, 1907, p. 83, pl. 4, fig. 173 ; Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910.

Upolu : Malifa, 1 ♀, 15.viii.1905 (Rechinger).

### 223. *Margaronia virginalis* Rebel.

*Glyphodes virginalis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 138, pl. 1, fig. 2, 1915.

Upolu : Apia, 2 ♀♀ (Friederichs) ; 1 ♂, 1 ♀, 23.iv.1922, 1.vii.1924 (Armstrong) ; 1 ♂, 1 ♀, x.1925 ; Malololelei, 1 ♂, 2 ♀♀, vii.1925 (Wilder) ; 4 ♂♂, 8 ♀♀, 24.ii., 28.vi., 5, 6.vii.1924.

### 224. *Margaronia juvenalis* Rebel.

*Glyphodes juvenalis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 152, 1915.

Samoa. 1 ♀ (Friederichs).

Upolu : Apia, 2 ♂♂, x.1925 ; Malololelei, 1 ♀, 25.ii.1924.

### 225. *Epipagis cancellalis* Zeller.

*Botys cancellalis* Zeller, *Lep. Micropt. Caffr.*, p. 34, 1852 ; *K. Svenska Vetensk. Acad. Handl.*, lxxiii, p. 34, 1854.

*Sameodes cancellalis* Zeller, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910 ; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Upolu : Apia, 1 ♂, 13.ix.1923 (Swezey and Wilder) ; 2 ♂♂, 1 ♀, 20.iii., 21.ix., 31.v.1924 ; Malifa, 1 ♀, 20.vii.1905 (Rechinger) ; Mulifanua, 1 ♀, 2.vi.1924 ; Vailima, 1 ♂, xi.1925 ; Leulumoega, 4 ♂♂, 1 ♀, 14.ix.1923 (Swezey and Wilder).

Savaii : Fagamalo, 1 ♀, 10.ii.1924.

226. *Thliptoceras octoguttalis* Felder.

*Botys octoguttalis* Felder, *Reise Novara, Zool.* ii (2), *Lep.* v, pl. 135, fig. 38, 1875.

Upolu : Malololelei, 1 ♀, 25.ii.1924.

227. *Terastia meticulosalis* Guenée.

*Terastia meticulosalis* Guenée, *Spec. Gén. Lép.*, viii, p. 212, 1854.

*Terastia meticulosalis* Guenée, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910 ; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915

Upolu : Apia, 2 ♀♀, 14, 21.ix.1924 (Armstrong) ; 2 ♀♀, 13, 14.ix.1923, ex *Erythrina* seeds (Swezey and Wilder) ; 1 ♀, 4.v.1925 ; Malololelei, 1 ♀, 24.ii.1924.

228. *Hyalobathra wilderi*, sp. n. (Plate VI, fig. 22).

*Isocentris illectalis* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910 ; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915, non Walker.

♂. Light orange yellow to deep chrome, underside light buff with some white. Palpus with first segment white ventrally. Antenna warm buff. Fore tarsus with segments white, tipped distally with buff yellow. Forewing with a deeply bowed (concavity basad) wavy, fuscous antemedial fascia, not well marked ; a fuscous streak along discocellulars ; a wavy fuscous postmedial fascia oblique from costa at two-thirds to vein  $M_2$ , bowed (concavity basad) to middle of vein  $Cu_1$ , then running basad to vein  $Cu_2$  at two-thirds, thence to inner margin just beyond middle, bowed between  $Cu_2$  and  $A_2$ , and  $A_2$  and inner margin ; a subterminal series of fuscous spots interneurally ; fringe cartridge buff with a fine fuscous line throughout its base. Hindwing similarly coloured, proximal two-thirds much paler, especially costad ; postmedial fascia and subterminal fascia the only markings.

Expanse : 22 mm.

♀. Similar, larger.

Expanse : 26 mm.

Holotype ♂ and allotype ♀. Upolu : Malololelei, 24.ii.1924.

Paratypes. Upolu : Malololelei, 1 ♂, 2 ♀♀, vii., 12.vii.1925 (Wilder) ; 1 ♂, 2 ♀♀, 24.ii.1924, 21.iv.1925.

Tutuila ; Pago Pago, 1 ♂, ii.1924 (Steffany).

Rebel (1910) records 1 ♀, taken by Rechner in 1905.

229. *Maruca testulalis* Geyer.

*Crochiphora testulalis* Geyer in Hübner, *Exot. Schmett.*, Zutr., iv (4), p. 12, figs. 629, 630, 1832.  
*Maruca testulalis* Geyer, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Upolu: Apia, 1 ♀, 12.iii.1923 (Armstrong); 2 ♂♂, 4 ♀♀, 27.iii., 16, 30.iv., 1.vi.1924, 15.iv., vii.1925; Malololelei, 1 ♀, 24.vi.1924; Malifa, 2 specimens, 28.v., 10.vi.1905 (Rechinger).

Savaii: Safune, 2 ♂♂, 1 ♀, lowlands to 1,000 feet, 1.v.1924 (Bryan).

Tutuila: Pago Pago, 1 ♂, ii.1924 (Steffany).

A serious pest of garden beans, the larva feeding inside the pods, and often entering where two pods are touching one another.

230. *Psara licarsialis* Walker.

*Botys licarsialis* Walker, *List. Lep. Ins. B. M.*, xviii, p. 686, 1859.  
*Pachyzancla licarsialis* Walker, Rebel, *Denkschr. K. Akad. Wiss. Wien, Math.-Naturw. Kl.*, lxxxv, p. 431, 1910; 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 146, 1915.

Samoa. 1 ♀, iii.-viii.1921 (O'Connor).

Upolu: Apia, 1 ♀, v.1896 (de la Garde); 1 ♂, 2 ♀♀, 28.x.1923, 4.v.1924 (Armstrong); 3 ♂♂, 6 ♀♀, 13-15.ix.1923 (Swezey and Wilder); 4 ♂♂, 3 ♀♀, ii., 10.ii., 31.iv., 31.v., 1.vi., ix.1924; Malololelei, 1 ♂, 1 ♀, 26.v., 22.vi.1924 (Armstrong); 8 ♂♂, 6 ♀♀, 23-25.ii., 14, 16, 21.vi., 5, 13.vii.1924, 22.iv.1925; Malifa, 4 specimens, end July-early August, 1905 (Rechinger); Vailima, 1 ♂, 26.vi.1925; Mt. Vaea, 1 ♂, 1,100 feet, 25.iv.1924 (Bryan); Leulumoega, 2 ♂♂, 14.ix.1923 (Swezey and Wilder).

Savaii: Tuasivi, 2 ♂♂, 8.ii.1924.

Tutuila: Pago Pago, 2 ♀♀, i.1924 (Steffany).

231. *Psara stultalis* Walker.

*Botys stultalis* Walker, *List Lep. Ins. B. M.*, xviii, p. 669, 1859.

Samoa. 1 ♂, iii.-viii.1921 (O'Connor).

Upolu: Malololelei, 2 ♂♂, 5 ♀♀, 24.ii., 21, 24.vi., 5.vii.1924, 25.iv.1925; Vailima, 1 ♂, 2.ii.1925.

Savaii: Safune, 1 ♂, rain forest 2,000-4,000 feet, 3.v.1924 (Bryan).

Tutuila: Pago Pago, 1 ♂, v.1896 (de la Garde).

232. *Noorda apiensis* Rebel.

*Noorda apiensis* Rebel, 2 *Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 139, pl. 1, fig. 3, 1915.

Upolu : Apia, 3 specimens, both sexes (Friederichs) ; 1 ♀, x.1925.

*Exeristis* Meyrick.

*Exeristis* Meyrick, *Trans. Ent. Soc. Lond.*, 1886, p. 266.

When Meyrick described this genus he had before him two species, both represented by single examples. Hampson (*Proc. Zool. Soc. Lond.*, 1899, p. 232) cited as type of the genus *E. asyphela* Meyrick, Tonga. Since then two species have been described, *E. polytima* Turner (*Trans. Roy. Soc. S. Austral.*, xxxii, p. 96, 1908), and *E. argyresthalis* Hampson (*Ann. Mag. Nat. Hist.* (8), xii, p. 1, 1913), both represented by single examples. These two differ considerably in appearance from the two species described by Meyrick, and I am not sure that they really belong here, but there is not sufficient material to enable me to make a thorough investigation.

However, I now have the opportunity of examining eight specimens from Samoa, and I had expected to find *E. asyphela*\* represented among these. On the contrary, I have discovered, in spite of the scantiness of the material, three new species. Of each species there is a pair, and, in addition, two females in poor condition apparently belonging to *E. asynopta*. I hope that the publication of these descriptions and figures will induce entomologists living in Samoa, Tonga and Fiji to collect these small moths in large numbers. A hundred of each would not be too many, and there is little doubt that there are more species awaiting discovery.



TEXT-FIG. 8.—  
*Exeristis asyphela* Meyrick, Tonga.  
Valve of ♂ genitalia.



TEXT-FIG. 9.—  
*Exeristis pollostata* Tams.  
Valve of ♂ genitalia.

233. *Exeristis pollostata*, sp. n. (Plate XVII, fig. 8).

♂ and ♀. Cartridge buff, shaded with warm buff, irrorated with fuscous, markings fuscous to fuscous black. Forewing post-medial with a noticeable streak projecting costad on vein  $R_5$ ; hindwing with a strong pattern. Expanse : 10 mm.

\* *Exeristis asyphela* Meyrick, Tonga, Text-fig. 8, valve of male genitalia—length 0.7 mm., width 0.4 mm., figured for comparison with the figures of the valves of the Samoan species.



♂ genitalia with the valve small—length 0.8 mm., width 0.3 mm.; no harpe (Text-fig. 9).

Holotype ♂ and allotype ♀. Upolu : Malololelei, 30.xi.1924.

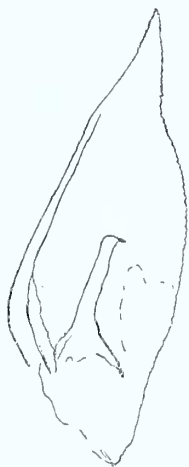
234. *Exeristis catharia*, sp. n. (Plate XVII, fig. 9).

♂ and ♀. Cartridge buff, shaded with warm buff, except hindwings, slight fuscous irroration, markings fuscous to fuscous black. Forewing fasciae sharply defined; antemedial fascia straight; postmedial fascia straight between costa and vein  $M_2$ , and between vein  $Cu_2$  and inner margin; hindwing white to cartridge buff, marked with fuscous on termen only. Expanse: ♂ 13 mm., ♀ 10 mm.

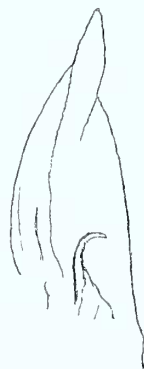
♂ genitalia with the valve large—length 1.3 mm., width 0.5 mm.; harpe present (Text-fig. 10).

Holotype ♂. Savaii : Fagamalo, xi.1925.

Allotype ♀. Upolu : Malololelei, 21.ii.1924.



TEXT-FIG. 10.—*Exeristis catharia* Tams.  
Valve of ♂ genitalia.



TEXT-FIG. 11.—*Exeristis asynopta* Tams.  
Valve of ♂ genitalia.

235. *Exeristis asynopta*, sp. n. (Plate XVII, fig. 10).

♂ and ♀. Cartridge buff shaded with warm buff, irrorated with fuscous, markings fuscous to fuscous black. Expanse: ♂ 13 mm., ♀ 11 mm.

♂ genitalia with valve moderate—length 1.1 mm., width 0.35 mm.; harpe hook-like (Text-fig. 11).

Holotype ♂. Upolu : Malololelei, 20.vi.1924.

Allotype ♀. Upolu : Malololelei, vii.1924.

Paratypes. Upolu : Malololelei, 2 ♀♀, 18.viii., 25.xi.1924.

### 236. *Pyrausta amboinalis* Pagenstecher.

*Botys amboinalis* Pagenstecher, *Jahrb. Nassau. Ver. f. Naturkunde*, xxxvii, p. 269, pl. 6, fig. 2, 1884.

*Pyrausta amboinalis* Pagenstecher, *Rebel, 2 Beiheft Jahrb. Hamb. Wiss. Anstalt.*, xxxii, p. 153, 1915.

Samoa. 1 ♂ (Friederichs).

## HEPIALIDAE.

### 237. *Phassodes vitiensis* Rothschild (Plate XII, fig. 1).

*Phassodes vitiensis* Rothschild, *Nov. Zool.*, ii, p. 482, 1895.

Upolu : Malololelei, 2 specimens, 18.viii.1924 ; 25.xi.1924.

## TINEIDAE.

### 238. *Thuriostoma homalospora* Meyrick (Text-fig. 12).

*Thuriostoma homalospora* Meyrick, *Exot. Microlep.*, iv, p. 515, 1934.

Holotype ♂. Upolu : Malololelei, 25.xi.1924.

This specimen was overlooked when the original consignment of Microlepidoptera was sent to Mr. Meyrick, and I found it mixed with the three species of *Exeristis*. Mr. Meyrick has very kindly described it at once, and on returning it he wrote : " I return your insect herewith ; it is undoubtedly curious, abnormal in aspect and in some points of structure," and in a later letter :

" You might like to know on what I relied in placing this insect of undoubtedly puzzling aspect. The basal half of the palpi bears long scattered bristles pointing diversely outwards beneath and laterally ; this structure occurs in very many (though by no means all) the typical *Tineidae*, but nowhere else except in a single *Gelechiad* genus, *Pogochaetia* (a very odd abnormality, but the genus is in every other point a typical *Gelechiad*), and as your insect, though departing from normal *Tineid* type in several particulars, exhibits no prohibitive character, I have no real doubt of its position."



TEXT-FIG. 12.—  
*Thuriostoma homalospora* Meyrick, ♂. Labial palpus to show scattered bristles.

#### EXPLANATION OF TEXT-FIGURES.

- Text-fig. 1. *Chrysaeglia samoensis* Rebel; (a) ♂, fore and hindwing venation; (b) ♀, hindwing venation.
- „ 2. *Asura hopkinsi* Tams. Wing venation.
- „ 3. *Asura uniformeola* Hampson. Wing venation.
- „ 4. *Deilemera alba* Pagenstecher. Full-grown larva. (Drawn by Dr. V. B. Wigglesworth.)
- „ 5. *Deilemera alba*. Prothorax (I), Mesothorax (II), and first abdominal segment (i) of full-grown larva, seen from left. Only the bases of the setae are indicated.
- „ 6. *Deilemera alba*. Abdominal segments 6-10 of full-grown larva.
- „ 7. *Pilocera albescens* Rebel. Wing venation.
- „ 8. *Exeristis asyphela* Meyrick, Tonga. Valve of ♂ genitalia.
- „ 9. *Exeristis pollostia* Tams. Valve of ♂ genitalia.
- „ 10. *Exeristis catharia* Tams. Valve of ♂ genitalia.
- „ 11. *Exeristis asynopta* Tams. Valve of ♂ genitalia.
- „ 12. *Thuriostoma homalospora* Meyrick, ♂. Labial palpus to show scattered bristles.

## PLATE VI.

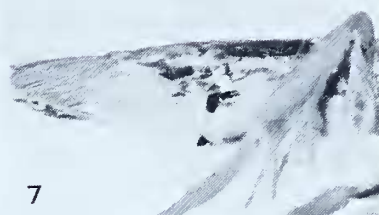
- Fig. 1. *Thalassodes charops* Prout.  
Fig. 2. *Nadagara hypomerops* Prout.  
Fig. 3. *Pyrrhorachis rhodoselas* Prout.  
Fig. 4. *Sauris mellita* Prout.  
Fig. 5. *Chloroclystis mempta* Prout.  
Fig. 6. *Anisodes hypocris* Prout.  
Fig. 7. *Ziridava dysorga* Prout.  
Fig. 8. *Asthenes eurychora* Prout.  
Fig. 9. *Asura hopkinsi* Tams, sp. n.  
Fig. 10. *Macaduma samoensis* Tams, sp. n.  
Fig. 11. *Asura pyrope* Tams, sp. n.  
Fig. 12. *Chrysaeglia samoensis* Rebel.  
Fig. 13. *Rivula dipterygosoma* Tams, sp. n.  
Fig. 14. *Paectes canescens* Tams, sp. n.  
Fig. 15. *Hypenodes taona* Tams, sp. n.  
Fig. 16. *Anomocala hopkinsi* Tams, gen. et sp. n.  
Fig. 17. *Cymodegma buxtoni* Tams, gen. et sp. n.  
Fig. 18. *Hypospila similis* Tams, sp. n.  
Fig. 19. *Machacropalpus fasciatus* Tams, gen. et sp. n.  
Fig. 20. *Mormecia lachnogylia* Tams, gen. et sp. n.  
Fig. 21. *Hoploscopa astrapias nauticorum* Tams, subsp. n.  
Fig. 22. *Hyalobathra wilderi* Tams, sp. n.  
Fig. 23. *Phostria oconnori* Tams, sp. n.  
Fig. 24. *Nephopteryx ceratistes* Tams, sp. n.  
Fig. 25. *Ceratotalama argosema* Meyrick.  
Fig. 26. *Bradina parbattoides* Tams, sp. n.





## PLATE VII.

- Fig. 1. *Chrysaeglia samoensis* Rebel, ♂.  $\times 3$ .
- Fig. 2. *Barasa rebeli* Tams, sp. n.  $\times 2$ .
- Fig. 3. *Microthripa buxtoni* Tams, sp. n.  $\times 2$ .
- Fig. 4. *Chusaris aurantilineata* Hampson, doubtful determination Tams.  $\times 2$ .
- Fig. 5. *Anomocala hopkinsi* Tams, gen. et sp. n., head, lateral view greatly enlarged, showing shape and position of palpi.
- Fig. 6. *Cymodegma buxtoni* Tams, gen et sp. n., head, lateral view greatly enlarged, showing shape and position of palpi.
- Fig. 7. *Rivula dipterygosoma* Tams, sp. n., abdomen, enlarged ventrolateral view, showing the two black tufts.
- Fig. 8. *Mormecia lachnogyia* Tams, gen. et sp. n., greatly enlarged view of head showing shape and position of palpi.
- Fig. 9. *Machaeropalpus fasciatus* Tams, gen. et sp. n., greatly enlarged view of head showing shape and position of palpi.
- Fig. 10. *Perigea illecta* Walker, greatly enlarged views of palpus (balsam mount and *in situ*), showing long second segment.
- Fig. 11. *Perigea serva* Walker, Sikkim, views of palpus for comparison with those in Fig. 10.



## PLATE VIII.

Fig. 1. *Tiracola rufimargo samoensis* Tams, subsp. n.  $\times 2$ .

Fig. 2. *Tiracola plagiata* Walker.  $\times 2$ .

Fig. 3. *Nagia homotima* Tams, sp. n.  $\times 2$ .

Fig. 4. *Tiridata samoana* Butler, holotype ♂.  $\times 2$ .

Fig. 5. *Tiridata samoana* Butler, ♀ (det. W. H. T. T.).  $\times 2$ .

Fig. 6. *Perigea serva* Walker, ♂,  $\times 2$ . Sikkim. Cf. fig. 7.

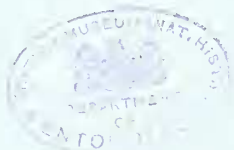
Fig. 7. *Perigea illecta* Walker, ♂,  $\times 2$ . Samoa. Cf. fig. 6.

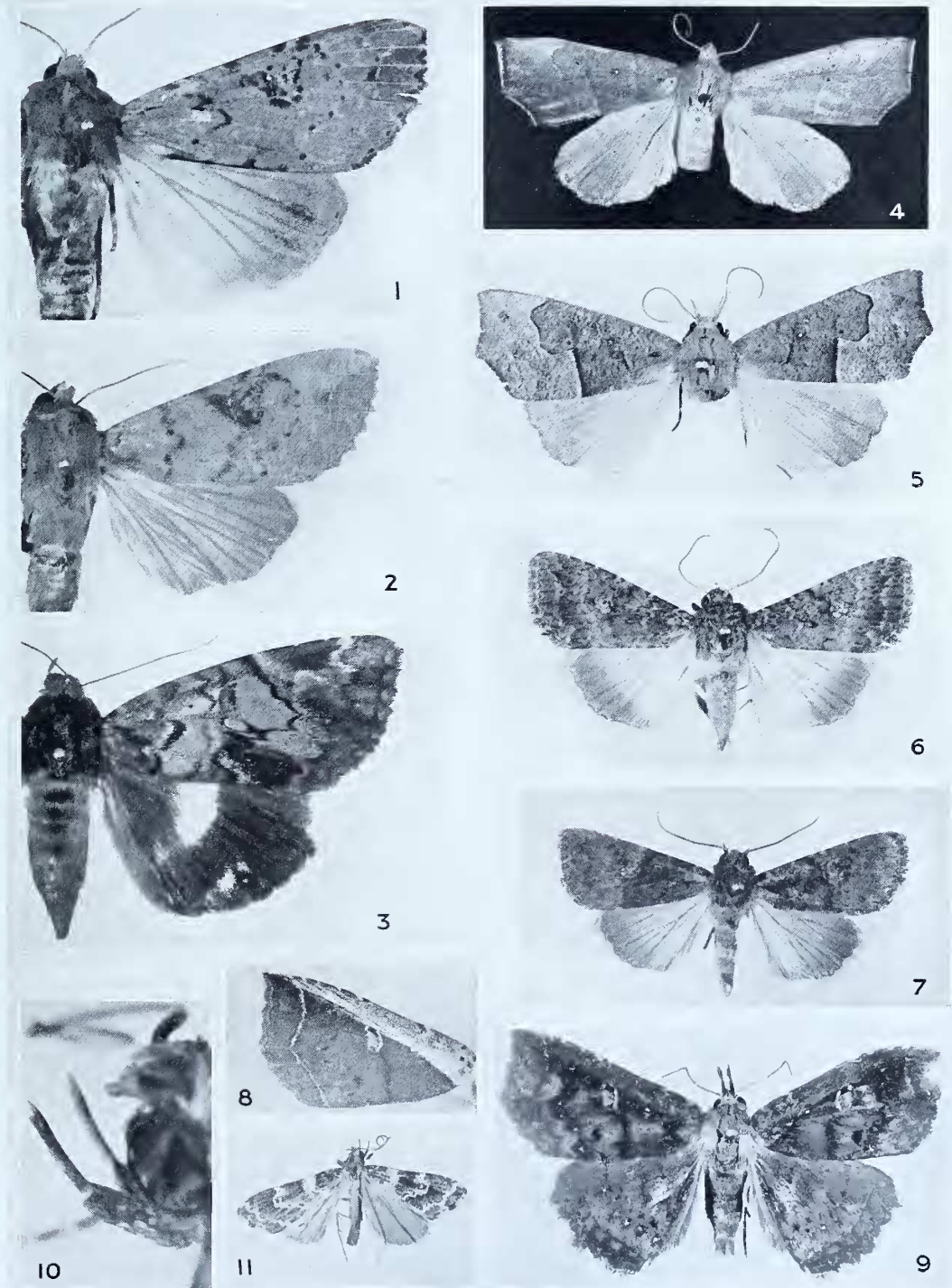
Fig. 8. *Leptotroga armstrongi* Tams, sp. n., aberration, forewing,  $\times 2$ .

Fig. 9. *Leptotroga armstrongi* Tams, sp. n., ♂.  $\times 2$ .

Fig. 10. *Arrade samoensis* Tams, sp. n., ♂. Head, greatly enlarged view showing shape and position of palpi.

Fig. 11. *Arrade samoensis* Tams, sp. n., ♂.  $\times 2$ .



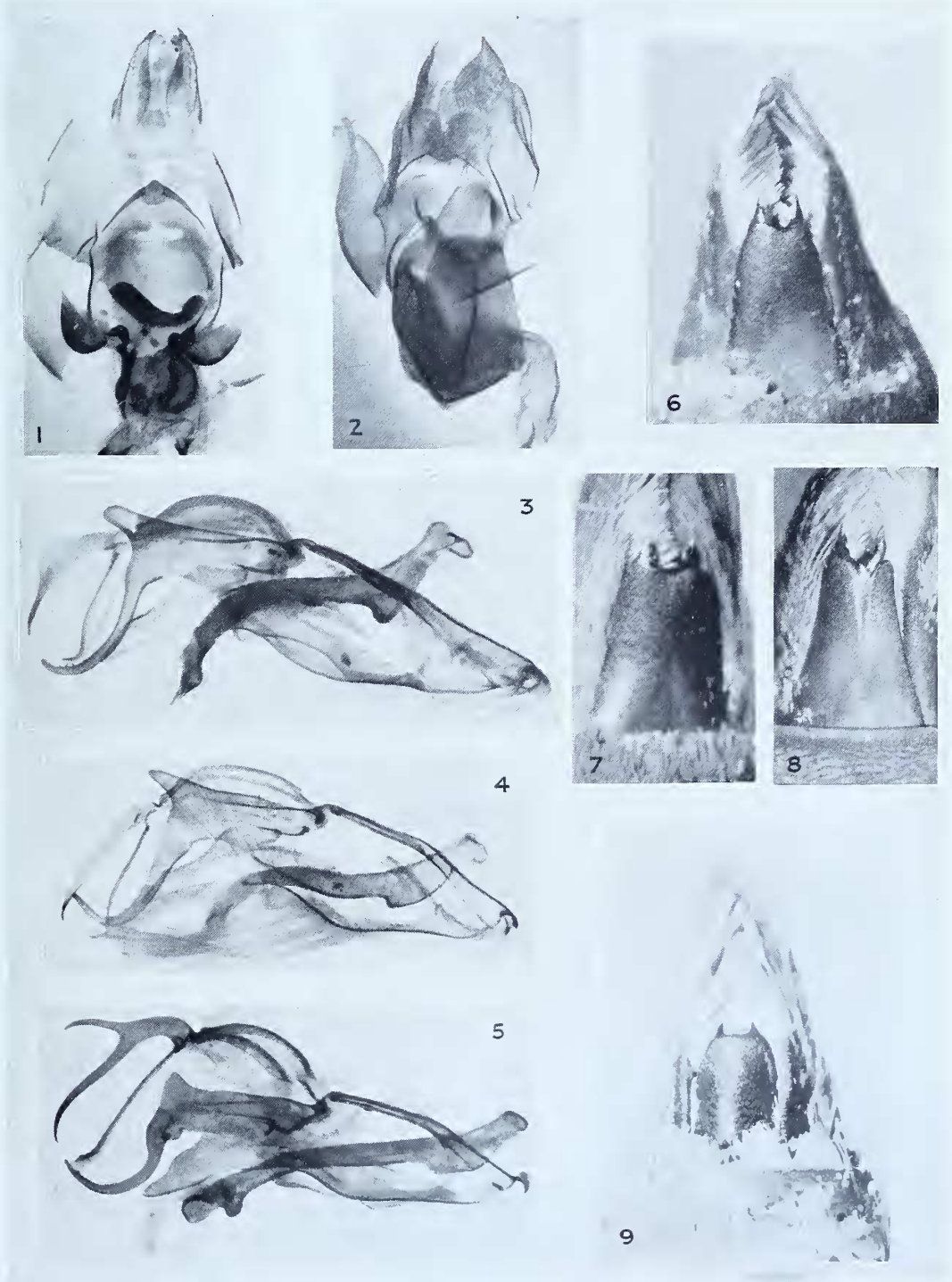


## PLATE IX.

- Fig. 1. *Rusicada fulvida* Guenée, Java. ♀ genital armature (bursa copulatrix not shown). Cf. fig. 2.
- Fig. 2. *Rusicada nigritarsis xanthochroa* Butler, Samoa. ♀ genital armature. Cf. fig. 1.
- Fig. 3. *Oxyodes ochreata ochreata* Rothschild, New Guinea. ♂ genital armature. Cf. figs. 4, 5.
- Fig. 4. *Oxyodes ochreata samoana* Tams, subsp. n. ♂ genital armature. Cf. figs. 3, 5.
- Fig. 5. *Oxyodes scrobiculata scrobiculata* Fabricius, South India. ♂ genital armature. Cf. figs. 3, 4.
- Fig. 6. *Oxyodes ochreata samoana* Tams, subsp. n. ♀, eighth ventrite. Cf. figs. 7, 8, 9.
- Fig. 7. *Oxyodes ochreata ochreata* Rothschild, New Guinea. ♀, eighth ventrite. Cf. figs. 6, 8, 9.
- Fig. 8. *Oxyodes ochreata tanymekes* Tams, subsp. n., Fiji. ♀, eighth ventrite. Cf. figs. 6, 7, 9.
- Fig. 9. *Oxyodes scrobiculata scrobiculata* Fabricius, South India. ♀, eighth ventrite. Cf. figs. 6, 7, 8.







## PLATE X.

Fig. 1. *Hydrillodes surata* Meyrick. Forewing.  $\times 4$ .

Fig. 2. *Hydrillodes sigma* Tams, sp. n. Forewing.  $\times 4$ .

Fig. 3. *H. surata* Meyrick. Hindwing.  $\times 4$ .

Fig. 4. *H. sigma* Tams, sp. n. Hindwing.  $\times 4$ .

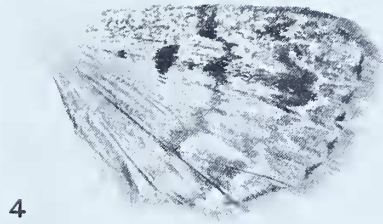
Fig. 5. *H. surata* Meyrick. ♂. Labial palpus. Greatly enlarged.

Fig. 6. *H. sigma* Tams, sp. n. ♂. Labial palpus. Greatly enlarged.

Fig. 7. *H. surata* Meyrick. ♀. Labial palpus. Greatly enlarged.

Fig. 8. *H. sigma* Tams, sp. n. ♀. Labial palpus. Greatly enlarged.





## PLATE XI.

- Fig. 1. *Epiplema lypera* Tams, sp. n. ♂.
- Fig. 2. *Epiplema lypera* Tams, sp. n. ♀.
- Fig. 3. *Epiplema hapala* Tams, sp. n.
- Fig. 4. *Striglina occia* Tams, sp. n.
- Fig. 5. *Striglina anthina* Tams, sp. n.
- Fig. 6. *Striglina lithophora* Tams, sp. n.
- Fig. 7. *Brizix dialitha* Tams, sp. n.
- Fig. 8. *Betousa hemicycla* Meyrick.
- Fig. 9. *Odontopaschia stephanuchra* Tams, sp. n.
- Fig. 10. *Odontopaschia stephanuchra* Tams, sp. n., cell ornament on forewing, greatly enlarged.

Enlargement of figures 1-9 =  $\times 2$ .





1



2



3



4



5



6



7



8



10

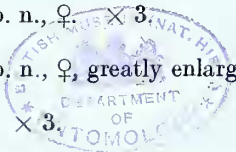


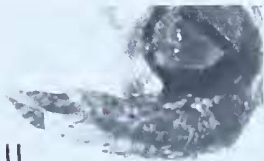
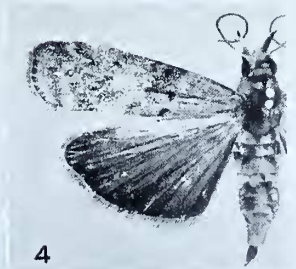
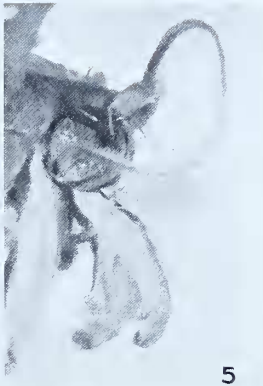
9



### PLATE XIII.

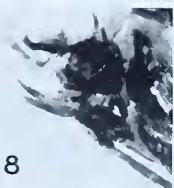
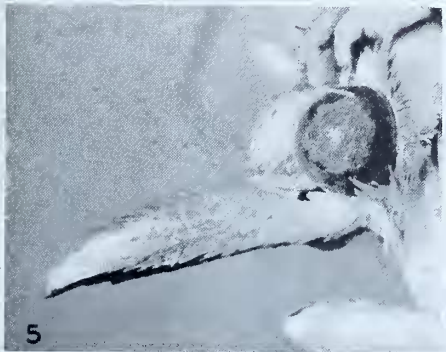
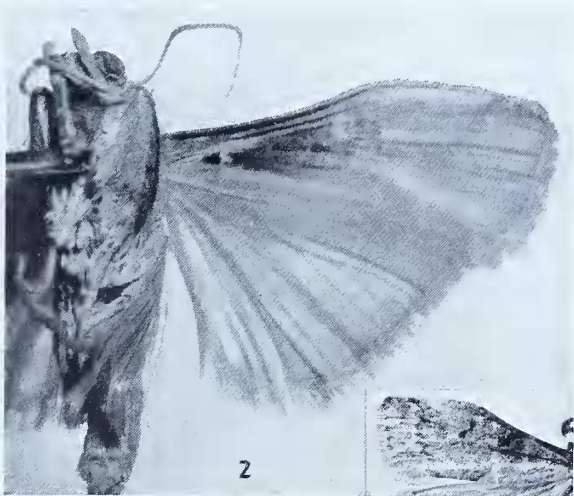
- Fig. 1. *Thylacoptila gonylasia* Tams, sp. n. ♂, head, greatly enlarged view showing shape and position of palpi.
- Fig. 2. *Ceratotalama argosema* Meyrick. Greatly enlarged view of head showing shape and position of palpi.
- Fig. 3. *Nephopteryx ceratistes* Tams, sp. n., ♀. Greatly enlarged view of head showing shape and position of palpi.
- Fig. 4. *Nephopteryx ceratistes* Tams, sp. n., ♀. × 3.
- Fig. 5. *Odontopaschia stephanuchra* Tams, sp. n., greatly enlarged view of head showing shape and position of palpi.
- Fig. 6. *Authaeretis exaereta* Tams, sp. n., head, greatly enlarged view showing shape and position of palpi.
- Fig. 7. *Calguia defiguralis* Walker, ♂, head, greatly enlarged view, one labial palpus removed and both maxillary palpi exposed and showing divided hair-pencils.
- Fig. 8. *Hypsipyra swezeyi* Tams, sp. n., ♀. × 3.
- Fig. 9. *Hypsipyra swezeyi* Tams, sp. n., ♀, greatly enlarged view of head.
- Fig. 10. *Cryptoblabeles spodopetina* Tams, sp. n., ♀. × 3.
- Fig. 11. *Cryptoblabeles spodopetina* Tams, sp. n., ♀, greatly enlarged view of head.
- Fig. 12. *Ptyobathra polia* Tams, sp. n., ♀. × 3.





## PLATE XIV.

- Fig. 1. *Nephopteryx ceratistes* Tams, sp. n., ♂. Greatly enlarged lateral view of head showing horn of long scales on frons, and maxillary palpi withdrawn from hollowed-out labial palpi and expanded.
- Fig. 2. *Thylacoptila gonylasia* Tams, sp. n., ♂. Greatly enlarged view of underside showing long brush of hair-scales at femoro-tibial joint, and dark patch of so-called androconial scales on proximal half of curiously shaped forewing ; inset, view of forewing upperside,  $\times 3$ .
- Fig. 3. *Nephopteryx ceratistes* Tams, sp. n., ♂. Another greatly enlarged view showing horn on frons, and labial palpi with base of enveloped maxillary palpi visible below frons.
- Fig. 4. *Acolastodes oenotripta* Meyrick. Greatly enlarged view of underside of forewing showing venation, particularly the extraordinary "looped" discocellular bar.
- Fig. 5. *Acolastodes oenotripta* Meyrick. Greatly enlarged lateral view of head showing shape and position of palpi.
- Fig. 6. *Acolastodes oenotripta* Meyrick.  $\times 2$ .
- Fig. 7. *Cryptoblabe elacothrepta* Tams, sp. n.  $\times 2$ .
- Fig. 8. *Cryptoblabe elacothrepta* Tams, sp. n., head, greatly enlarged view showing shape and position of palpi.



## PLATE XV.

- Fig. 1. *Bradina pyenolopha* Tams, sp. n.  
Fig. 2. *Bradina leptolopha* Tams, sp. n.  
Fig. 3. *Dracaenura adela* Tams, sp. n.  
Fig. 4. *Bradina chlorionalis* Tams, sp. n.  
Fig. 5. *Trichophysetis neophyla* Meyrick.  
Fig. 6. *Trichophysetis neophyla* Meyrick, ♀. Greatly enlarged view of head.  
Fig. 7. *Parthenodes eugethes* Tams, sp. n.  
Fig. 8. *Ambia schistochoeta* Tams, sp. n.  
Fig. 9. *Clupeosoma lampra* Tams, sp. n.  
Fig. 10. *Clupeosoma photina* Tams, sp. n.

All except fig. 6  $\times 2$ .







## PLATE XVI.

Fig. 1. *Agathodes ostentalis* Geyer.

Fig. 2. *Agathodes rebeli* Tams, sp. n.

Fig. 3. *Chloauges brunneomarginalis* Kenrick, ♀.

Fig. 4. *Margaronia buxtoni* Tams, sp. n.

Fig. 5. *Leucophotis pulchra* Butler.

Fig. 6. *Sylepta commotes* Tams, sp. n.

Fig. 7. *Phostria oconnori* Tams, sp. n.

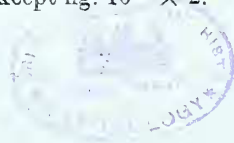
Fig. 8. *Authaeretis exaereta* Tams, sp. n.

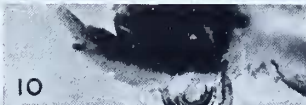
Fig. 9. *Margaronia diplocyma* Hampson, ♂, Fiji.

Fig. 10. *Piletocera albescens* Rebel, head, greatly enlarged view showing shape and position of palpi.

Fig. 11. *Piletocera albescens* Rebel.

All except fig. 10  $\times 2$ .





## PLATE XVII.

- Fig. 1. *Piletocera steffanyi* Tams, sp. n., ♂. × 2.  
Fig. 2. *Piletocera steffanyi* Tams, sp. n., ♀. × 2.  
Fig. 3. *Piletocera rechingeri* Tams, sp. n., ♀. × 2.  
Fig. 4. *Diathrausta lypera* Tams, sp. n., ♀. × 5.  
Fig. 5. *Baeoptila ellipes* Tams, sp. n. × 5.  
Fig. 6. *Cataclysta dialitha* Tams, sp. n. × 5.  
Fig. 7. *Sufetula hemiophthalma* Meyrick. × 5. (Inset, head, greatly enlarged.)  
Fig. 8. *Exeristis pollostia* Tams, sp. n. × 5.  
Fig. 9. *Exeristis catharia* Tams, sp. n. × 5.  
Fig. 10. *Exeristis asynopta* Tams, sp. n. × 5.  
Fig. 11. *Diptychophora dialitha* Tams, sp. n. × 5.  
Fig. 12. *Diptychophora calliptera* Tams, sp. n. × 5.  
Fig. 13. *Diptychophora amydra* Tams, sp. n. × 5.







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## PLATE XVIII.

- Fig. 1. *Fumea samoana* Tams, sp. n.  $\times 5$ .
- Fig. 2. *Hoploscopa astrapias astrapias* Meyrick, Fiji, forewing.  $\times 3$ .
- Fig. 3. *Hoploscopa astrapias anamesa* Tams, subsp. n., New Hebrides, forewing.
- Fig. 4. *Hoploscopa astrapias nauticorum* Tams, subsp. n., Samoa, forewing.  $\times 3$ .
- Fig. 5. *Hypocala australiae* Butler, Samoa, hindwing, upperside.  $\times 2$ .
- Fig. 6. *Hypocala australiae* Butler, Queensland, hindwing, upperside.  $\times 2$ .
- Fig. 7. *Hypocala australiae* Butler, Samoa, hindwing, underside.  $\times 2$ .
- Fig. 8. *Hypocala australiae* Butler, Queensland, hindwing, underside.  $\times 2$ .
- Fig. 9. *Luceria oculalis* Moore, greatly enlarged lateral view of head.
- Fig. 10. *Rivula polynesiana* Hampson, greatly enlarged lateral view of head.
- Fig. 11. *Hypenodes taona* Tams, sp. n., greatly enlarged lateral view of head.
- Fig. 12. *Nodaria acrosema* Turner, greatly enlarged lateral view of head.
- Fig. 13. *Progonia oileusalis* Walker, greatly enlarged lateral view of head.
- Fig. 14. *Phazaca kellersi* Tams, sp. n., wings.  $\times 3$ .
- Fig. 15. *Latagognoma dacryodes* Tams, gen. et sp. n., forewing.  $\times 8$ .
- Fig. 16. *Latagognoma dacryodes* Tams, greatly enlarged lateral view of head.

